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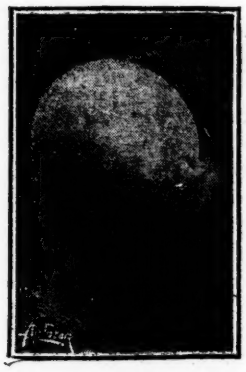

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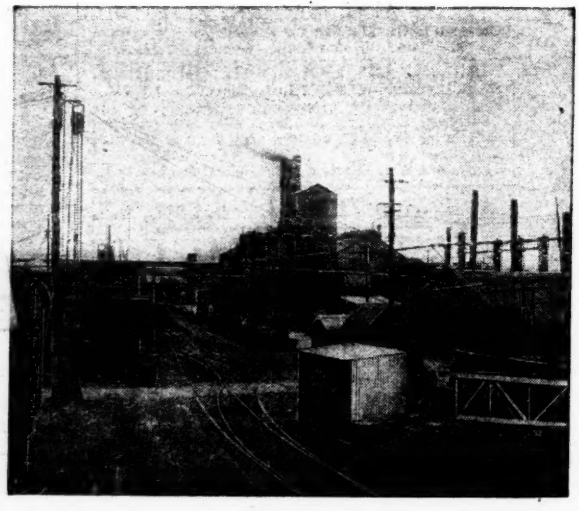

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PSYCHOPATHOLOGY AND DISSOCIATION.*

BY

WILLIAM BROWN, M.A., M.D.OXON., D.Sc.LOND.,

READER IN PSYCHOLOGY, UNIVERSITY OF LONDON (KING'S COLLEGE); LATE MEDICAL OFFICER IN CHARGE OF CRAIGLOCKHART WAR HOSPITAL FOR NEURASTHENIC OFFICERS.

I HAVE chosen this subject because it seems to me an especially interesting part of psychology, and to those who are beginning the subject it opens out prospects of advance in the science which are extremely attractive and stimulating.

Psychopathology is the science of the abnormal or pathological working of the mind. Psychology considers the laws of working of the normal mind, the mind that is in adequate adaptation to its environment, physical and mental. Psychopathology considers the laws of working of the mind that is out of harmony with its environment because of some degenerative process.

The difficulty is to find one guiding idea to carry us along in this very complicated subject. The hint comes from normal psychology. Not many years ago our own English psychologists developed a system of association psychology, explaining the mind in terms of association of ideas—that is, regarding the mind as something gradually built up on the basis of what is given through impressions from without and of what is inherited within. So in psychopathology we might begin our discussion by considering facts of dissociation—indeed, that is the word to conjure with in our subject—dissociation, splitting up of the mind, the antithesis of association. We shall take as examples of pathological states the so-called borderline cases—hysteria, neurasthenia, psychasthenia, and compulsion neurosis. If we go beyond these we come to what are called the psychoses, which are recognized forms of insanity. Much the same kind of explanation will cover all types of mental disease, but the attempt to produce a satisfactory science of mental dissociation was begun within the domain of borderline cases, otherwise known as the psychoneuroses. These diseases may also be called functional nervous diseases. In them there is no demonstrable lesion of the nervous system. The nervous system is apparently intact, but is functioning wrongly or inadequately.

This lecture will be devoted to the problem of hysteria.

Hysteria.

In hysteria we have very obviously a case of dissociation; certain parts of the mind, certain sensations, certain powers of movement, certain memories, are lost to the main consciousness, but still exist somewhere or other, in some form or other, and can be restored under appropriate conditions. The anaesthesias that hysterical patients suffer from are a good instance of the kind of dissociation that occurs. A hysterical patient may suffer from anaesthesia of the hand, or of the hand and lower arm, or of the hand and arm up to the shoulder, ending in a straight line round the shoulder, or, again, from hemianaesthesia extending down the right or left side of the body and ending accurately in the middle line. Many other forms of anaesthesia are possible. All these types correspond in their extent to ordinary, uneducated concepts of the divisions of the body; for example, the hand, in ordinary unscientific thought, is considered as one entity, the whole arm is considered as an entity, ending in a straight line round the shoulder. This holds good even for purposes of tactile association, but from anatomy we know that the nerves supply irregular areas, consisting, for example, of a strip down the forearm, extending towards the fingers of the hand, so that, if there were an organic disturbance of a cutaneous nerve, we would find an irregular area of anaesthesia—the more irregular the smaller the number of nerves affected—we would not find an area of anaesthesia corresponding to the hand, or the arm. Pierre Janet emphasized these distinctions between what are called functional anaesthesias and organic anaesthesias, and pointed out that the anaesthesia illustrates the state of mind of the hysteric, who has lost the power of holding together in one unity all the sensations from the different parts of his body. A patient may receive a blow on the arm, causing a mental shock, as a result of which his whole arm may become anaesthetic, and the anaesthetic area may end in a straight line round the shoulder-joint. That area does not correspond to the distribution of any set of nerve fibres, but it does correspond with the patient's own conception of his cutaneous sensibility. Moreover, it can be proved indirectly that the sensations in this part of the body still exist. Sometimes we can do this by a trick, as Janet pointed out: We can ask the patient to say "yes" when he feels a pin-prick, "no" when he does not. We get him to close his eyes, and then silently explore different parts of his body. Whenever he is pricked on the normal part of the skin he will say "yes." When he is pricked on the so-called anaesthetic area of the skin he will often say "no," whereas if the area were really anaesthetic he would not know that it had been touched at all. Yet he is probably quite genuine in his belief that he has not felt the pin-prick—though of course we must be certain that he is not malingering. It is very important in considering hysteria to be familiar with the various types of malingering. Cases like this, of anaesthesia combined with functional paralysis of the arm, occurred frequently during the late war.

I have dwelt on hysterical anaesthesia, not because it is very important, but because it well illustrates this theory of functional dissociation. There is dissociated from the entire mind one psycho-physical power, in this particular case cutaneous sensitivity—the power of reacting to stimuli presented to some part of the body. Again, the patient may have loss of motor power: he may be suffering from loss of power in the legs—cannot stand or walk; yet if we investigate his nervous system we may find that it is perfectly normal. Nevertheless, there is loss of sensory power, or loss of motor power, and also, very frequently, a greater or less degree of amnesia, or loss of memory. To sum up the state of mind of the hysterical individual, we may say that it is a state of mental dissociation—dissociation of certain psycho-physical functions from the main personality. Yet these dissociated functions remain, and under appropriate conditions can be recovered—for example, under hypnosis. Hysterical patients are easily hypnotized; in fact, Charcot and Janet hold that any person who is easily hypnotizable is *ipso facto* hysterical, and that, if an ordinary person be hypnotized, he is made hysterical by dissociating his mind—a form of dissociation has been started. With this view I agree.

It is worth while considering this matter a little further. To hypnotize a person we get him to fix a bright object with his eyes, to relax his muscles, and to give his mind up to sleep—to turn his mind away from everything active. We continue to talk to him all the time, telling him to think of sleep, and saying that his eyelids will begin to get heavy, that he will lose feeling in his limbs, and that he will gradually become more and more drowsy. After he has fixed the bright object for a short time and his expectation of sleep has been encouraged in this way and his thoughts fixed on sleep, which (though we have as yet no satisfactory theory of sleep) may be provisionally said to be a quieting down of the mental powers, he will appear to lose consciousness. But there is one power of the mind that is not quieted down, and that is the power of hearing the physician's voice. The physician is talking almost the whole time, and whenever he speaks the patient, until he gets very deeply hypnotized, can respond. Thus we produce dissociation of the power of hearing a particular kind of sound from the rest of the mind. The rest of the mind is lulled to sleep; it is a case of partial sleep. But more than that, there is an emotional element at work. A patient cannot be hypnotized by a gramophone, unless he has been hypnotized before and has an extreme tendency to yield to this kind of suggestion. The patient has to feel an interest in the physician, either of fear or of confidence. These are the two forms of mental reaction. Different people hypnotize in different ways; some have a tendency to hypnotize through fear, others through arousing confidence—one might even say affection—in the patient. There is always an emotional element involved. We shall have later to consider a theory that makes a great deal of this emotional element. In the case of a normal person such an emotional appeal must be very strong; in the case of a hysterical person it need not be so strong, because the patient already shows

* A lecture delivered to Psychology students at King's College, Strand, December 15th, 1919.

a tendency towards dissociation; the hypnotic effects appear more readily. Charcot considered the hypnotic state a form of artificially induced hysteria. Janet agreed with him, and so do I, though many people think that, because almost everyone can be hypnotized to some degree, this theory must be wrong. But there is a tendency to mental dissociation in all of us, based on emotional conflicts. No one is a complete mental unity.

Finally, as an example of a hysterical patient, let me take the condition of almost any bad case of shell shock on the Western front, or any of the other fronts, during the past five years—any of the cases as they reached the casualty clearing station. The patient's condition was always that of dissociation. All such cases agree in showing loss of memory of greater or less extent. They may have forgotten everything that has happened since the shell burst, and they will exhibit other losses of function, greater or less, according to circumstances. They may show loss of voice, of powers of walking, of powers of hearing, of the power of voluntary control. I would emphasize their loss of memory. It will be found that such a patient is very easily hypnotized; if it be suggested to him that he will remember the circumstances of his injury with hallucinatory vividness, he will act again the whole circumstances, and in that process his various dissociated functions will return. If he has been dumb, he will now speak, without the necessity of suggesting this. If he has been paralysed, movement will occur in his limbs. I do not say that he will at once be able to take up his bed and walk, but his limbs will move about, showing that there is power in them, and that the power is linked up with the lost memory. What has been done here? We have re-associated him by bringing up these lost memories. With the memories we have brought up the lost functions. But we have done more than that, we have given him an outlet for an emotion which was originally experienced by him with too great intensity—with so great an intensity that he could not do full justice to it, and his mind split in the attempt. The way in which these patients live again through their experiences shows what terrible sensations they must have had. They roll about, gripping at the sides of the stretcher, or rolling on the floor, tearing at their hair with their hands, contorting themselves in every possible way, foaming at the mouth, becoming purple in the face, their eyes starting out of their head, all their muscles tense. While under shell fire the conscious personality was trying to suppress the emotion of fear, partly from a sense of duty—the duty of a soldier—partly in self-defence—anything to get away from it. There occurs a mental conflict—an attempt to get rid of the painful emotion. The attempt succeeds at the expense of the mental machinery; clouding of consciousness supervenes, the patient goes into a state of stupor, where he is not completely unconscious, but where he is dazed. He gradually recovers from this, but has no memory of it later. We see here the mechanism at work explaining the dissociation. The dissociation is obviously a fact, but it is not an ultimate fact. There is a cause for it, and that cause is mental conflict, an attempt at repression, an attempt which has succeeded to a certain extent, but only at the cost of the production of a pathological symptom or set of symptoms. In curing the patient we bring up the repressed experience once more, we encourage him to work off the emotion involved in it. Just as a person who grieves for someone he has lost finds relief in tears, so we let these patients work off their fear. Thus we are concerned not only with the linking up of the dissociation, but also with the working off of fear, of a certain amount of emotional energy that has been bottled up in the patient.

This illustrates the advance that Sigmund Freud made on Janet in explaining hysteria. Janet explains hysteria simply in terms of dissociation. He says that the patient suffers from weakness of mental synthesis. He compares the hysteric to an old lady who has gone shopping and has made too many purchases. She comes back with her arms laden with parcels. Some of these fall to the ground; she stoops to pick them up, and others fall. So, he says, is it with the hysteric after a shock. He loses the power of holding all his psycho-physical functions simultaneously in his mind so that some of them are lost, and he suffers from an anaesthesia and paraplegia. If you cure him of this by suggestion, later on he will, perhaps, as the result of some slight shock, show some other functional symptom—he may lose his voice or his hearing. Some other hysterical symptom will take the place of the original one unless he is cured of his general mental state. But Janet did not undertake to explain why the dissociation took place. Freud found, after an investigation of some hysterical cases under hypnosis, that there was very frequently loss of memory, that such memories were always of an emotional character, and that the symptoms disappeared if the memories were brought to the surface of the mind with their original vividness. Breuer and Freud published their first article on the mechanism of hysteria in illustration of this process—this effect of repression of painful emotional experience: loss of memory and dissociation, and the recovery of these by means of hypnosis and the dissipation of the symptoms themselves through encouraging the patient to live through the emotion again. This living again through the emotion and working it off was called "abreaction." At this early stage of his theory, then, Freud regarded dissociation as due to a preliminary mental conflict and a repression of one of the conflicting mental tendencies. Later on he developed this view further. He found that in the case of the dreams of normal persons there was also evidence of mental repression, and of the production of mental symptoms as a result of the repression. His view of the dreams of normal persons was, and is, that they correspond exactly with the symptoms of the hysteric, that they are "disguised fulfilments of repressed wishes," to use his own words. I do not want to go into his theory of dreams in detail, it would take us too far afield; I wish only to recall this part of his theory.* Later on he found, after analysing a number of his own cases, that the emotional tendencies which were repressed were all of a sexual nature, and so he enunciated his dictum that no neurosis is possible in a normal sexual life, and that, if a patient is suffering from neurosis, there must have been some disturbance in his sexual life.

That is the extreme form of the Freudian theory, which I do not accept, though the Freudian school make it an essential part of their doctrine. Freud thinks that we can find evidence of sexuality in the early years of childhood—namely, feelings of attraction of the boy towards his mother and of the girl towards her father, combined with hatred and jealousy felt towards the parent of the same sex—and that these feelings are shortly afterwards repressed. A mental conflict takes place in the child's mind, and sexual repression occurs, partly through the further normal development of the child's mind—other interests arise and crowd out these feelings—partly through the fact of development of feelings of sympathy and of morality, and these repressed tendencies only produce a competing factor if shocks occur later in the child's life.

I have already referred to the production of hysterical symptoms as being due to an emotional shock. That seems to be the general rule—an emotional shock will produce hysteria in persons whose inherited make-up is suited for it. The hysteric is born, not made, but the hysterical symptom is originated through some emotional shock. Freud considered that these emotional shocks were repressed and dissociated from the mind, and continued to act as a foreign body in consequence, but that these repressed memories could be brought to the surface either by hypnotism or by his method of psycho-analysis. In his earlier work he thought that he could prove in every case the actual occurrence of a shock in early childhood of a sexual nature. Later on, however, he discovered that some of the memories brought up by these methods were false memories—that the patient had imagined them—but this did not alter his theory very much. He said that the fact that the patient had the power of imagining such events showed that there was maldevelopment of the sexual life at that time, so that he then explained the neurosis in terms of the process of development of the psycho-sexual life of the child—a theory into which I cannot go now. To be a thoroughgoing Freudian now one must be able to accept this theory, and for many of us it is because we cannot subscribe to it that we should not call ourselves Freudians.

C. G. Jung of Zurich was Freud's most brilliant pupil, and at first an enthusiastic supporter of his views. Later, however, Jung's researches led him to believe that these

* See my articles on "Freud's Theory of Dreams," *Lancet*, April 19th and April 26th, 1913.

earlier emotional memories of the child were not an essential factor in the production of neurosis, but that the principal factor was the present condition of the patient. When a patient falls ill of a psycho-neurosis it is because he is not adequately adapted to his present social and physical environment. Life is too great a task for him; he cannot hold his own; he has not sufficient courage to face facts, with the result that, if he is of a hysterical temperament, his mind turns back to childhood's memories and to more childish modes of conscious activity. What Jung calls "regression" takes place. The mental energy of the individual, which Jung has called the "libido" (corresponding very closely to Bergson's "*élan vital*"), is reflected back, and revives earlier memories of childhood, not only memories of actual occurrences in childhood, but also early fancies. These fancies may be of a sexual nature or they may not. The libido in that way becomes linked up with earlier memories, and is no longer of use to the individual in his present mental situation—thus he becomes still less competent to deal with his environment.

But Jung would use the same method as Freud uses in treating the patient—the method of psycho-analysis, because, he says, we want to get back these earlier memories for the sake of the libido that is linked up with them. Psycho-analysis is simply the method of free association. If the patient is suffering from some hysterical symptom you get him to let his mind pass into a passive state—to recline on a couch, say, with his eyes closed—and passively follow up the sequence of ideas as they occur to him one after another, without any prompting. He begins, say, to think of the time when the symptom first developed, and then just watches his mind drift as it will—gets into a state of meditation—and tells the doctor from moment to moment what he is thinking about without reservation or criticism. His thinking seems to be undirected, to be just determined by free association. The result is that more and more ideas and memories from the past come to his mind, and perhaps eventually memories that are of great significance for his symptom. This occurs because the method is not really a method of free association at all. The series of ideas is, it is true, not determined by conscious mental process; it is determined by unconscious mental process. By letting the conscious selective activity fall into abeyance trends of unconscious mental activity come nearer to the surface of the mind and guide the ideas, and these belong to the same world as those mental tendencies which are at the basis of the hysterical symptom.

The difference between Freud and Jung, then, is, that Freud says that earlier memories and earlier imaginations are directly responsible for the hysterical symptom; Jung says that failure of adaptation at the present moment causes a regression or reflection of mental energy back to the past, and that this revives earlier imaginations and memories and so produces the hysterical symptom. Both agree in adopting the method of psycho-analysis, which proceeds to recall these earlier memories and fancies.

These, briefly, seem to be the fundamental ideas of Freud and Jung on hysteria, as contrasted with the ideas of Janet. They go a step further to the cause of the dissociation—that is, mental conflict and repression. Link up this dissociation and remove this repression and the patient is cured.

Freud, who originally used hypnosis, gave it up, partly because he found that he could only hypnotize about one-third of his patients, whereas psycho-analysis, though it took much longer, could be applied to every case, and produced eventually much the same results. His second objection to hypnotism was that certain resistances are overcome by the recall of particular memories, but in this process the resistance in other directions is increased, so that the mind is limited rather than expanded. He also suggested the germs of the theory that Ferenczi worked out in detail afterwards—namely, that in hypnosis there is really a transference of emotional feeling, of the early sexual feelings of childhood, to the person of the physician. Ferenczi points to the fact that there are two main methods of hypnotizing: the method of command, corresponding to the paternal method with the child, and the method of coaxing and soothing, which corresponds to the attitude the mother adopts towards the child. He then argues that in both types of hypnosis there is a revival in the patient's mind of its early modes of response. When a patient is hypnotized he responds to the physician just as he responded to his father or his mother in early years—that is, by a reaction that is of a sexual nature—hence the patient's early sexual feelings are fixed on the physician. What has thus really been done is to replace one set of symptoms by another. Hysterical symptoms, like loss of the power of walking or loss of voice, may thus be got rid of, but in the place of these the psycho-sexual dependence of the patient upon oneself has been produced, and this also is bad. What evidence has Ferenczi for this view? He says that it is taken from actual experience of patients whom he originally treated by hypnotism, but later on psycho-analysed. He found evidence of such transference of feeling in them.

These, then, are Freud's three objections to the method of hypnotism: (1) Failure of the method in certain cases. (2) Its tendency to produce other symptoms in place of those of which the patient is cured. (3) Fear of the transference of sexual feeling to the person of the physician.*

With regard to the last objection we might urge that Ferenczi's theory is a *petitio principii;* the patient may respond to the physician as he did to his father or his mother in childhood, not necessarily, however, because of sexual feelings, but perhaps simply because at that time he was more suggestible than in later life. A young child has only a few facts in his mind, and if any suggestion is made to him he tends to believe it unquestioningly. He comes into the world with a tendency to what is called "primitive credulity"—a very important attribute. Most of what he learns in early life is learnt through suggestion, not by means of logical reasoning. We like to encourage a child to reason, but if we made it think out everything for itself we should only confuse it and hamper its development, instead of forwarding it. And if that is true of the intellectual side of the child's life, it is much more important on the moral side. We can explain the child's response simply in terms of greater suggestibility. We get our patient into a state in which he is willing to accept the suggestions that are made to him in the same way as he accepted them in his early childhood.

This method is much quicker than that of psycho-analysis, and can produce equally satisfactory results in simple cases. I will give two illustrations.

One is that of a signaller in the Flying Corps who was blown up by an aeroplane bomb whilst taking refuge in a disused trench in France. He became unconscious, and on coming to he found that the trench seemed to be turned round at right angles to the position in which he had expected it to be. When he arrived at the barracks the same thing had occurred—everything seemed to be twisted at right angles to its ordinary position. This feeling of disorientation, as we may call it, persisted for many months. When he came home to England it still showed itself in the following ways: When walking along a street which bent roughly in the form of a semicircle, thus ⊐, he would have the irresistible feeling that he had been walking like this ⌝. If he were riding on the top of a bus, and the bus turned at a right angle, he would have the feeling that he was continuing to go in a straight line, although he knew that the bus had turned a corner. He would think that the whole room he was in, everything, had twisted round to a right angle. I hypnotized this patient and put him through his experiences again, with the result that the occasions on which he got this feeling of disorientation became roughly about half as frequent as before, but the disorientation continued to occur from time to time. He was better, but by no means cured. A few days later he came to tell me that his mother had informed him that at the age of six, as the result of a fall, he had shown much the same symptom; while crossing the Tower Bridge one day he had told her that the bridge was turned "the other way round." I hypnotized him, and put him through this experience again. He lived it through with much vividness. He is sitting on a wooden horse (white with red stripes) in the dining-room. His aunt comes into the room and wishes to wash him; he declines, and edges away from her; the horse tips up on the edge of the hearthrug, and he falls on to the fender. He knows no more until he wakes up and finds himself in bed, with his aunt bathing his face. He continues to recall his

*But all Freudians regard such "transference" as an essential stage in the process of cure, and expect to produce it, in every case, in the course of psycho-analysis. They subsequently "resolve" the transference by further analysis.

experiences, and remembers crossing the Tower Bridge and finding it turned at right angles. After recalling this incident the patient was much better, but a few days later he went to the theatre to see *Going Up* (it is true that there is an aeroplane in *Going Up*), and he suddenly found that the theatre was the wrong way round. He went home, and in the middle of the night he woke up with the feeling of disorientation, got out of bed, and went towards what he thought was the window, and put his hand through the looking-glass. Thus he was by no means cured. I pointed out that there must be some memory in the first six years of his life which was the cause of the trouble. He tried to recall it, but did not make much progress. I then put him through his fourth birthday under hypnosis, and he remembered a frightening dream in which he had thought that there was an animal under the table. He had crawled downstairs and waked up half-way down. The next morning he had thought that the pier was the wrong way round, and had told his mother so. I interpreted his dream for him while he was in the hypnotic trance. He had seen the Giant Ape in a glass case at the Natural History Museum, South Kensington. This had frightened him, and it was this creature which he had thought was under the table in his dream. I took the precaution to get another doctor (Captain P. A. Galpin, R.A.M.C.) to come and see me hypnotize this patient the next time. I then suggested to him that he would go through his first experience of disorientation. When I put my hand on his forehead he shouted out, "Hot coffee!" It appeared that, when a child of nearly three, he had gone into the kitchen one morning, and had pulled the coffee-pot, which was on the table, towards him by pulling at the tablecloth. The coffee upset and poured down his right arm. He felt it as a pain in his left side, over his heart. He knew no more until he woke up in bed, when he saw his father come into the room, and he felt the bed to be the wrong way round. That was his first experience of disorientation—the first he could remember. It occurred to me, as a possible explanation of the dissociation, that the scalding of his arm produced a fainting fit, in which he fell to the left and everything twisted round to the right—he fell through a right angle. That was the beginning of his disorientation.

To make quite sure of this I hypnotized him again to bring up an earlier memory still. I suggested to him that he should remember his second birthday. He suddenly began to shout out: "He has bit me—Gordon has bit me!" Before I woke him up, I asked him all about it, but he could not tell me very much whilst in the hypnotic state—he had gone back to a period when he was too young to be able to describe his experiences. I told him that he would continue to remember all that he had just gone through, and I then woke him up. He told me that Gordon was not a dog, but a little cousin of his. They had been in bed together, standing up in bed, and it appears that he had punched Gordon in the face, and that Gordon had retaliated by biting him in the left arm. He could remember that at that time he was living near a Fire Station—could remember all the details of the incident, and could remember definitely that he had had no feeling of disorientation. The revival of this incident brought no memory of any earlier disorientation. The next day after this treatment he felt more disorientated than ever, for he had been going through these experiences very vividly. I let him stay in bed, and after two days he recovered completely, and very soon applied for his discharge. I let him go, but asked him to write to me if the feeling of disorientation ever recurred. I have never heard of him since.

This case seems to me to show that such memories date from very early life, and more than that, it shows that the memories need not always be of a sexual nature, because at the age of 2 even Freud would admit that there can be very little sex, and it is very difficult to see where the sexual experience could come in in such a case.

The other case is a much simpler one, but it is what I would call a crucial case of the value of abreaction, or the working off of emotion under hypnosis. It is the case of a gunner who was admitted to the hospital where I was working, after he had spent two years in military hospitals of different kinds. He was suffering from a tremor of the right hand, dating from the time when he had been blown up at Ypres. He did not remember anything more until he reached hospital, and the memory of this interval had never been recalled to him by any of the doctors he had previously seen. I sent him to sleep—that took just about three seconds—and then suggested to him that he should live again through the experience of Ypres. He did so, and began to shout out all sorts of things which showed what had happened at the time. Bosch shells were falling nearer and nearer to the gun-pit. He was apparently serving the gun, and someone else was handing him ammunition, and this person had evidently lost his head, for my patient shouted out: "What the —— do you mean by pulling the —— pin out of that —— fuse?" Then I noticed that he was moving the handle with his right hand; his hand began to shake violently, and soon he was shaking all over, but especially in his right hand. Then he suddenly became absolutely still. I suggested to him that he would continue to remember all that he had just gone through and then woke him up. He looked at his hand, which was absolutely still, with amazement, and expressed his gratitude, but his mind still appeared somewhat confused, so I told him to go and sleep it off. An hour later he came back and told me that he had not been to sleep, but that he had been thinking it all over. He knew everything that had happened, and told me that he had not been suffering from shell shock but from gun shock. His gun had been blown up, and the emotion which this experience had excited in him had been bottled up for two years, with the result that he had suffered from this tremor in his hand. The next morning he was able to shave himself with an ordinary razor, for the first time since his illness.

Now, was this working off of the emotion the cause of the recovery? The alternative explanation is that the recovery is due to suggestion. When this man came to me, however, he certainly did not expect me to cure him. I saw him the first day that he came to the ward and treated him at once, and he was not likely to have more confidence in me than in anyone else who had treated him. As regards the hypnosis, he went off straight away without realizing that he was being hypnotized—it was not that that impressed him. As far as one can make out, there was no expectation worked up—it was simply the working off of the emotion that cured him. That is why I call this a crucial case. In many other cases it may be argued that the cure is the result of suggestion—for example, in the case of the disorientated man—but this case of the gunner was not of that sort. I do not for a moment wish to deny the working of suggestion in curing such cases, but I wish to emphasize the curative effect of the working off of emotion as a fundamental factor. It is a more causative treatment than suggestion. Suggestion removes the symptom; abreaction removes the cause of the symptom.

The explanation of psychasthenia, compulsion neurosis, and some of the psychoses in terms of the same concept of mental conflict and dissociation must be postponed.

In conclusion, I should like to express my indebtedness to Major R. Worth, O.B.E., R.A.M.C., of Springfield War Hospital, for his courtesy in allowing me to report the above two cases, and for his unfailing help and encouragement while I was working in that hospital.

THE IMPORTANCE OF THE HOUSE-FLY AS A CARRIER OF *E. HISTOLYTICA*.

BY

P. A. BUXTON, M.R.C.S., L.R.C.P.,

FELLOW OF TRINITY COLLEGE, CAMBRIDGE; CENTRAL LABORATORY, AMARA, MESOPOTAMIA.

THE investigation here described was undertaken to determine as far as possible the extent to which the house-fly is a carrier of the organisms causing diarrhœa, dysentery, etc. No one would now attempt to deny that the fly *can* carry a very large number of different species of pathogenic organisms; the present paper tries to afford some actual statistical evidence of the extent to which it actually *does* carry them. So far as I know, we have very little real knowledge of the relative importance of water carriage, flies, carrier cooks, etc., either in this country or in any other. The investigation has been carried through in one small area in Amara, on the lower Tigris, between February 1st and November 3rd, 1918,

The sanitation here is, of course, very much better than it is further up the line.

The Gross Figures.—These are as follows:

Total number of flies dissected	1027
Number containing "apparent faeces"...	645=63 %
Number containing human intestinal parasites	42=4.09 %
Number containing *E. histolytica* cysts ...	3=0.3 %

The intestinal parasites, as will be seen later, are eggs of worms and cysts of protozoa. The "apparent faeces" which is recorded in 63 per cent. of the flies dissected requires explanation. A fly was recorded as containing "apparent faeces" if its gut contained brownish material enough to be seen by the naked eye, and if on being made into a film the brown material agreed in its appearance with human faeces. Generally it was swarming with bacteria; often one observed portions of partially digested muscle fibres (proving that the faeces, at any rate, was not that of horse or sheep); or one found the characteristic thick-walled cells which appear in the stools of Indians after a meal of dhal (pulse); or groups of yeast stained blue with iodine which are common in human stools in this country. I have frequently found these yeasts in conjunction with such distinctively human parasites as hookworm eggs. Moreover, the fact that I never found a cyst or egg of any parasite of dog or ox or horse suggests very strongly that the faeces found in the fly was human in origin; and if over 4 per cent. of the flies contain eggs or cysts of definitely human parasites there is nothing unreasonable in believing that *63 per cent. of the flies contain human faeces.* One must, however, admit that there is no *one* criterion which enables us to state that a given substance is human faeces; even the demonstration of the presence of *Bacillus coli* in each of these flies would have been useless, as that organism inhabits the intestinal tract of many vertebrates.

Difference between Male and Female Flies.

It soon became clear that flies from different situations would contain faeces and human entozoa to very different extents, and also that the males were very much cleaner than the females. As the relative abundance of the two sexes varied much in the day's catch, I determined to exclude males altogether from the dissections in order to obtain a uniform basis for my statistics. The relative cleanness of the sexes is shown below:

Males:	
Number dissected	206
Number containing "apparent faeces"...	67 = 33 %
Females:	
Number dissected	165
Number containing "apparent faeces"...	107 = 65 %

These figures appear to indicate that the female is twice as much a carrier of faeces as the male. As a matter of fact the disparity between the sexes is greater even than this, because the average male recorded as containing faeces often contained but a fraction of the amount one would find in the average female. The above figures are strictly comparable, as in them I have only included males and females taken at the same time and place.

Females from Various Situations.

The females alone will now be considered; the total figures are as follows:

Total number of females dissected ...	796
Number containing "apparent faeces"...	568 = 71 %

The great majority of these females fall within five groups:

Group I, those taken in or on British fly-proofed latrines 100 yards or more from any incinerator. Group II, those taken on or in latrines immediately adjacent to an incinerator. Group III, those taken in one particular British cookhouse and mess 80 to 100 yards from an Indian latrine and incinerator. Group IV, those taken in Indian latrines with incinerators alongside. Group V, those taken in Arab compounds of the lower class.

The system of sanitation provides approximately fly-proof latrine seats with lids for British troops, the walls and roofs rendering the inside partially dark. For Indian troops latrines with any form of lid are impossible to arrange owing to caste; the Indian latrines consist of separate urine and faeces tins on the ground, between two foot rests, with screens of matting and mud and a light roof. The latrine, whether British or Indian, in the great majority of cases is close to the incinerator, which is a brick cone with a grid about 3 ft. from the ground; a door about 2 ft. square is provided for loading dejecta, etc., upon the grid, and two or three small holes on different aspects for admitting the wind; the top of the cone is truncated, leaving a smoke vent about 2 ft. across. These incinerators burn fairly well even if there is no breeze. Trench latrines and the burying of any form of refuse except that from slaughterhouses have long ago been abolished.

The system of sanitation in Arab compounds, so far as it can be said to exist, is as follows: There is a great deal of promiscuous defaecation, particularly by children, and before dawn by low-class adults, in courtyards and roads and, above all, on the flat housetops. The Mesopotamian sun is only sufficient to render this practice harmless during four or five summer months; in fact, by September isolated deposits of faeces are not only fed upon by swarms of flies, but actually afford breeding places for *Sarcophaga*, etc., and by October for *Musca* itself. Apart from this promiscuous defaecation, all the low-class compounds from which the flies in Group V were collected possess a shallow, partially open cess-pit in the corner of the yard. Dejecta are dropped into an open, sloping trench, and slowly pass down into the pit itself. It is also customary to make basin-shaped holes in the earth in front of the door of each hut, and in these to place household rubbish, partly decomposed vegetables, faeces, etc. It will, I think, be realized that the presence of a number of these compounds close to a military area tends to nullify the efforts of those in sanitary charge of the area. The better class houses in towns are kept much more clean, and have completely closed cess-pit latrines, which cause very little annoyance.

The figures for flies from these five types of locality are as follows:

Group Number and Locality.	Total Number Females Dissected.	Number containing "Apparent Faeces."	Percentage containing "Apparent Faeces."
I. British latrines, no incinerators	99	39	39
II. British latrines and incinerators	80	57	71
III. British mess and cookhouse	198	119	61
IV. Indian latrines and incinerators	155	118	76
V. Arab compounds ...	201	161	80

The difference in dirtiness between flies in Groups I and II is due to the fact that burning in the type of incinerator I have described is so slow that numbers of flies may frequently be seen inside the incinerator feeding on such material as is not directly in the smoke. I think my figures show that these incinerators are an important leak in the system of sanitation; it appears that the fly-proofed latrine for British troops is moderately efficient, but as it is frequently placed next one of these incinerators, in which the flies feed freely, the fly-proofing of the latrine seat becomes a mockery. One concludes, then, that the provision of a door to close the hole through which the incinerator is loaded is an urgent necessity. Of course the burning of faeces on an open grid incinerator is still more strongly to be condemned. There is no reason why sheet-iron doors should not be fitted to these cone incinerators in areas at the base and on the lines of communication—in fact, such doors are often fitted, but only used as draught regulators.

As regards the flies from British cookhouses and messes (Group III), the great majority of these flies were taken in one mess and cookhouse about eighty yards from an incinerator and latrine, and up-wind of it when the prevailing north-west wind was blowing. It is rather disquieting to notice that 61 per cent. of the flies from this group contain faeces. As a matter of fact, 5 of these 198 flies contained cysts of human intestinal protozoa, one of them the cyst of *Entamoeba histolytica*.

The Entozoa.

Human intestinal parasites, referred to shortly as entozoa, were found in 42 different flies. This is 4.09 per cent. of the whole number.

The entozoa comprised representatives of ten species—two cestodes, four nematodes, three protozoa, and the organism known as *Blastocystis*. All the species are well-known parasites

of man, and the great majority of them are not known as parasites of other animals. Of the 42 flies in which one or more of these organisms was recognized 39 belonged to Groups I to V; in these groups the flies shown to contain entozoa were distributed as follows:

Group:	I.	II.	III	IV.	V.	Total.
Total flies examined ...	59	80	198	155	201	733
Hymenolepis nana	0	0	0	0	1	1
Taenia saginata	0	1	0	0	0	1
Ankylostomum duodenale .	0	0	0	1	2	3
Necator americanus ...	0	0	0	0	1	1
Strongyloides stercoralis ...	0	0	0	0	1	1
"Ankylostomes"	0	0	0	3	0	3
Trichiuris trichiura ...	1	1	0	0	0	2
Entamoeba coli	1	8	3	5	3	20
E. histolytica	0	2	1	0	0	3
Giardia (Lamblia) intestinalis	1	2	1	1	0	5
Blastocystis	0	1	0	0	3	4
Total flies containing entozoa	2	13	5	8	10	39

Note.—The totals at the foot of the table do not equal the sum of the figures above them, because some flies contain more than one sort of entozoan.

The detection of cysts of *Entamoeba histolytica* only three times in over a thousand flies might at first be taken as evidence that the fly under the conditions studied is of minor importance as a carrier of amoebic dysentery. On the other hand, it must be remembered that it is impossible to remove the whole amount of faeces contained in a fly; if a given fly contains but one or two cysts, it is quite possible that these may escape detection. One must further remember that it is by no means easy to see the cysts at all in some films, owing to the presence of the globules described below; also, even in the absence of these globules, a single cyst must often remain undetected behind a mass of débris. It may safely be said, then, that 0.3 per cent. by no means represents the number of flies carrying cysts of *E. histolytica*. We should certainly be nearer the mark if we surmised that the actual percentage was 0.5; possibly it may be higher. Now this represents a very large number when it is remembered that the fly is found throughout the year in Mesopotamia, and that in spite of the excellence of the sanitation of most units in the area, the fly is abundant in messes and cookhouses every spring and autumn. Probably up the line the percentage of flies carrying cysts is higher, as the conservancy is necessarily less perfect.

The identification of the eggs of *Ankylostomum duodenale*, *Necator americanus*, and *Strongyloides stercoralis* rests, of course, on measurements. The egg of *S. stercoralis* was 93.6 μ in length and relatively more elongate than that of the other species.

Technique.

The flies were dissected in the ordinary way, as described by Patton and Cragg.[1]

The legs and wings are removed, the trunk is placed on a slide in saline solution, and the head cut off with a needle sharpened like a scalpel. The trunk is then steadied with a blunt needle, while with the sharp needle small incisions are made dorsally and ventrally in the abdominal wall. The tip of the abdomen is then pulled away from the rest of the body and the gut and crop gradually unravelled on the slide. After fragments of fat body, Malpighian tubes, etc., have been pushed aside, those lengths of gut which seem to contain faeces are isolated by cuts from the scalpel needle. The faecal contents are expressed from this as far as possible at one spot on the slide; the crop is also opened at the same place. The contents are flooded with Gram's iodine solution and covered and examined.

During a certain stage of the digestive processes of the fly globules are poured out by the gut epithelium into the gut contents. These globules have an oily appearance and do not closely resemble a cyst, but being round and approximately the size of cysts they make examination of the film extremely slow; in examining an ordinary film from a stool the trained eye very quickly picks out any round body for further study; in examining a film from a fly this may be rendered quite impossible owing to the presence of many round bodies in every field. Pathologists differ as to the advisability of treating ordinary stool films with iodine; there can be no doubt that in examining films from the fly iodine is almost a necessity, as it enables one very rapidly to distinguish between cysts and globules. In carrying out this work I have never recorded any body as an amoebic cyst unless it had been treated with iodine, to render the cyst wall and nuclei clearly visible. A number of doubtful cysts were seen early in the investigation; they have not been included in the figures. I have not found either fluorescin or eosin o any value in enabling me instantaneously to detect a cyst among a number of globules. Practically all the amoebic cysts have been examined also by Captain G. Lapage, R.A.M.C., and passed by him. His very wide experience of these bodies has been of the greatest use to me; whenever he has been doubtful about any object which I have submitted to him I have excluded it from the statistics. The investigation was begun in conjunction with Lieutenant J. H. Woodger of the Norfolk Regiment and continued for a short time by both of us. I have presumed on his kindness and included a number of his dissections in the statistics, transfer to an isolated force preventing all communication between us. I am very grateful to them both.

The flies examined have all of them been house flies—that is, they would all have been referred to as *Musca domestica* a few years ago. A great number appear to be referable to the species or races now known as *Musca determinata* and *M. angustifrons;* but the whole question of species in the house-fly group is now under revision, and it is probable that new species will be found when the flies of Mesopotamia have been examined along the lines of Awati's[2] work in India. From the public health point of view the exact systematic position of the insect appears to be immaterial. The habits of all these races appear to be the same as regards breeding in faeces and feeding upon it and upon human foods.

Vomit Spots.

Early in the investigation about fifty were examined with negative results; time failed to examine a large number.

The occasional presence of eggs of worms and cysts of protozoa in the vomit and faecal deposits of flies has, of course, been demonstrated, especially by Wenyon and O'Connor.[3] A transfer to another country has prevented me from carrying through a similar investigation on the carriage of pathogenic bacteria by the fly in this area.

Conclusions.

(*a*) As has already been shown by Wenyon and O'Connor,[3] one may expect to find the egg of any human intestinal worm, or the cyst of any protozoan in the fly if only one looks long enough.

(*b*) It appears that in a well-sanitated area in Lower Mesopotamia over 60 per cent. of the flies carry human faeces, over 4 per cent. of them actual human entozoa, and probably at least 0.5 per cent. the cyst of *Entamoeba histolytica*.

(*c*) One is justified therefore in regarding the fly in this country as not only a potential, but an actual and major factor in the carriage of the bowel disorders which are here so regrettably numerous.

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[1] Patton and Cragg: *Textbook of Medical Entomology*, Madras, 1913. [2] Awati: *Ind. Journal of Med. Research*, vol. iii, p. 510. [3] Wenyon and O'Connor: *Journal of the R.A.M.C.*, vol. xxviii, 1917, No. 6, p. 694.

THE triennial meeting of the International Society of Surgery will be held at Paris instead of Brussels this year from Monday, July 19th, to Friday, July 23rd. The subjects set for discussion are: (1) The surgery of the heart and great vessels; (2) the treatment of tumours by radium and *x* rays; (3) the analysis of the blood and its biological reactions in surgical affections; (4) fractures of the femur; (5) the prophylaxis and treatment of tetanus. The subscription is 50 francs. Members of the medical profession who wish to be nominated for election are requested to communicate with Sir D'Arcy Power, K.B.E., 10A, Chandos Street, Cavendish Square, W.1.

ANALYSIS OF ONE HUNDRED CONSECUTIVE CASES OF CARDIAC DISEASE.*

BY

W. BLACK JONES, M.D., B.S.LOND.,

BUILTH WELLS.

DURING the past few years knowledge of diseases of the heart has been notably advanced, and I will here give an analysis of 100 consecutive cases of cardiac disease occurring in my practice at Llangammarch Wells, and discuss the symptoms, the prognosis, and treatment, in the light of modern research.

When a patient with a disordered heart presents himself it is advisable, before proceeding to the physical examination, to make inquiries as to the symptoms. Frequently they have been neglected, and more stress has been laid on the presence or absence of certain physical signs, and an erroneous impression of the case has been obtained.

At rest the heart uses only a small portion of its energy in keeping the blood circulating, but during exercise a larger amount, called reserve energy, is used; in violent exercise this may amount to three or four times that used at rest. When heart failure begins this reserve energy diminishes, thus lessening the amount of work the patient can do.

Heart failure is indicated by certain symptoms, such as pain in the region of the precordium, shortness of breath, exhaustion, etc. The basis for estimating the strength of the heart, and therefore the amount of reserve energy present, is the amount of physical work the patient can do. The first inquiries are therefore directed to ascertain how far the patient can walk without exhaustion, and whether he can ascend one or two flights of stairs or a moderate hill without feeling short of breath. This is a valuable test, and as the patient recovers he can estimate the increase in the reserve energy by his ability to walk further afield without distress. It is the object of this paper to call attention to these symptoms of primary importance, to indicate their relative frequency and their value in diagnosis, prognosis, and treatment.

Patients with certain physical signs, such as murmurs, have often been misled as to their condition because the physician laid too much stress on the presence of a murmur when no other sign or symptom of cardiac failure was present; and, on the other hand, some practitioners have been puzzled by the condition of a patient, obviously seriously ill with some cardiac disorder, because no murmur could be heard, as if a valvular lesion were the sole cause of heart failure.

In the medical examination for life insurance the examiner is generally asked to state whether the sounds of the heart are normal and whether the organ is enlarged. In many cases these are the only questions directed to the condition of the heart excepting those as to the character of the pulse. It is, however, encouraging to find that one insurance company at least has appreciated the value of modern researches on cardiology, and in addition to the above asks the following questions: "Does the proposed suffer from precordial pain, breathlessness on slight exertion, or any other symptom of impaired cardiac efficiency?"

The following are my methods of examination and the results I noted in 100 consecutive cases:

1. *Age.*

The average age was 54 years.

2. *Occupation.*

It is not enough to learn that the patient is, say, a solicitor or an engineer, without inquiring whether the strain upon him is physical, or mental, or both. When the questions of prognosis and treatment are concerned we have to ask ourselves what proportion of this work he can do in the future, whether he can do half, or must give up all his work. Of 100 cases, 65 were males, and as to occupation 26 were of the working class.

3. *Pain.*

Pain in the chest is a most valuable symptom: it may be regarded as a sign of the degeneration of the muscular fibres of the heart and of the exhaustion and failure of that organ. It is often slight, but in some cases, especially when the pain is more or less constant, sudden death occurs. Whether slight or acute, it does not necessarily indicate the calcification of the coronary arteries, a lesion which is known to accompany many cases of angina pectoris. The pain is usually felt over the area of the heart. It is of a reflex nature, caused by the irritation of the cardiac nerves, by which impulses are transmitted to the spinal cord, reflected to the sensory nerves, and referred to various parts of the trunk and arms. Pain is a valuable measure of the amount of degeneration of the myocardium and is a guide to prognosis and treatment.

Of the above cases under my care, 73 complained of pain over the heart or neighbouring part of the chest; 9 of them complained of pain in the region of the lower ribs on the left side; in many of the cases the pain was only a dull ache; in all the pain was intermittent. On exertion or excitement the pain often radiates to other parts of the body. Of these 73 cases, 33 experienced an increase in the area of the pain, 30 referred the pain to the left arm, two to both arms, and one to the right arm only.

4. *Causes of the Pain.*

(*a*) *Exertion.*—Fifty-one patients attributed the pain to exertion. Careful inquiry should be made as to the amount of exertion that causes this pain; it is a valuable indication in treatment, as in many cases the pain can be wholly or partly avoided by reducing the amount of work.

(*b*) *Excitement.*—Thirty-six persons stated that mental excitement caused the pain. Worries in the daily life that can be avoided must be ascertained.

(*c*) *Indigestion.*—Thirty-four persons attributed attacks of pain to digestive disturbances. Flatulence due to chronic gastric catarrh is one of the most frequent causes of such cardiac disturbances as pain, palpitation, shortness of breath, etc. The stomach, if distended with flatus, may either act reflexly or mechanically on the heart. Probably the latter cause is the more frequent, as it raises the heart up and alters its axis, thus disturbing its anatomical position. The treatment of this condition is of the utmost importance, and in some cases I have devoted my whole attention to the treatment of the gastric rather than of the cardiac symptoms. Frequently immediate relief to distressing cardiac symptoms is afforded by a few simple directions as to diet.

(*d*) *Pain at Rest.*—Twenty-one patients complained of pain while in bed. This symptom often indicates advanced degeneration of the myocardium, and the prognosis is unfavourable.

5. *Breathlessness.*

In 89 cases patients complained of shortness of breath after slight exertion. This is one of the earliest and also one of the cardinal symptoms of cardiac failure. It is nearly always accompanied by exhaustion.

6. *Exhaustion after Exertion.*

This occurred in 85 cases. In the treatment of the patients these two symptoms—breathlessness and exhaustion—are of great importance, as when they abate they become measures of the progress towards recovery.

7. *Palpitation.*

This was noticed by 36 persons, of whom 13 were males and 23 females. It frequently occurs in neurotic women, and if there are no other symptoms of cardiac failure the prognosis is frequently good.

8. *Faintness and Giddiness.*

Faintness was noted in 6 cases; in only one of these was the prognosis good. Giddiness occurred in 29 persons. It is an important sign often noticed in tall people; the prognosis is generally not favourable.

9. *Pulse.*

(*a*) *Frequency.*—The rate of the pulse was 76 or under in 71 cases; it was above that rate in 29 cases. In 2 of the latter it was markedly irregular owing to auricular fibrillation.

(*b*) *Tension.*—In all cases the systolic pressure of the pulse was noted. I have adopted the classification of Oliver, who defined as cases of high tension those in

* Being a paper read before the North Glamorgan and Brecknock Division of the British Medical Association, at Brecon, September 24th, 1919.

which the pressure is above 145 mm. in persons under 40 years of age, and in those above that age in whom the tension is above 160 mm. Out of 100 cases, 36 had high tension; of these, 25 had symptoms of anginal pain and 11 were without pain. When the high tension is not accompanied by dilatation or other signs of cardiac failure the prognosis is more favourable than when signs of degeneration are present.

10. *Dilatation.*

In 61 cases the heart was dilated, and in 22 of these a murmur was present; in one case the murmur certainly had no prognostic significance, as it was the only cardiac symptom present.

11. *The Urine.*

Albumin was present in the urine in three cases and sugar in one.

12. *Prognosis.*

In 17 of the 100 cases prognosis as regards life was good, provided the patients did not exceed the limits of the amount of strain put upon the heart. Of these cases, 4 were due to affections of the nervous system, and were all amenable to treatment, and 8 suffered from cardiac pain, but this either disappeared on treatment or was so infrequent as to cause little anxiety. In two cases the cardiac symptoms were of no importance.

Treatment.

The first essential is rest; its degree must be left to the judgement of the physician, (*a*) whether the patient is to go to bed for some weeks, or (*b*) whether he is allowed to be up and about, and is to have his exercise graduated according to the amount of work the heart is able to do. All the cases mentioned in this paper are comprised in the latter class. In estimating the capacity of the patient for exercise it is always necessary to inquire how far he can walk without bringing on pain or producing shortness of breath, palpitation, or exhaustion. After a few days' treatment it is often found that the patient is able to walk further without distressing symptoms, and has lost the sensation of lassitude.

The second essential is the careful regulation of the diet, especially if gastric catarrh be present. Frequently immediate relief to distressing cardiac symptoms is afforded by a few simple directions as to diet. The main principles I adopt are as follows:

1. The teeth are to be in good condition.
2. The avoidance of indigestible foods, such as pork, veal, and other hard meats and warmed-up dishes. All underground roots, including potatoes; also sloppy food, such as bread and milk, broth and soup, strong tea, coffee, alcohol.
3. Each meal is to consist of a very few articles, and over-eating is to be avoided. The food is to be well masticated, and eaten dry.
4. Hot water is to be taken after the meal; when flatulence is present, a soda mint tablet may be taken with advantage.
5. A pill containing a grain of calomel is to be taken once or twice a week.

Among the working classes indulgence in strong tea has in many cases caused more damage to the gastric mucous membrane, and thus eventually shortened life, than indulgence in alcohol.

At Llangammarch Wells these patients had spa treatment in addition to rest from their various occupations and anxieties, and change of air and scene; they had the benefit also of balneological treatment, consisting of the internal administration of the mineral water, of baths, and of massage, which I have fully described elsewhere.*

Many of the patients are seen year after year, and the progress made by some of them is noted below.

CASE I.

A man, aged 60, consulted me in July, 1916, having had symptoms of cardiac failure a month previously. He complained of pain over the precordium, which occasionally radiated down the left arm. He also suffered from giddiness, palpitation, and shortness of breath. There was evidence of gastric catarrh, the heart was dilated and the sounds feeble. The pulse was regular, the rate 76 and the tension 150 mm. He had been addicted to alcohol. I recommended a strict diet, the mineral water, and abdominal massage, and advised him as to the amount of exercise he was to take. He soon began to improve, and lost most of the distressing symptoms and was able to walk much better. The improvement was maintained when he was last seen during the summer of 1919.

CASE II.

A man, aged 32, was first seen in February, 1918. He complained of pain over the heart, which at times was of a stabbing nature, and which radiated down the left arm on exertion or after attacks of indigestion. He had experienced this pain occasionally for two years. He had the usual symptoms of shortness of breath and exhaustion, and was at times in considerable distress. The heart was dilated, and there was marked gastric catarrh. He was a commercial traveller, and had not only been much overworked, but his meals were most irregular.

After several weeks' rest and careful diet all the distressing symptoms abated, and he gradually returned to his duties; at present is able to do a considerable amount of work. He is very careful as to his diet, and often is able to obtain an extra day's rest at the week-end. I am of opinion that the prognosis is good in this case.

CASE III.

A man, aged 55, consulted me in May, 1919. He had worked abroad for many years, and his heart had been weak since 1915. He complained of pain over the precordium and shortness of breath, which were aggravated by exertion. The heart was dilated, the pulse rate was 80, and the tension 140 mm. Occasionally he had Cheyne-Stokes breathing and the stomach was dilated.

After six weeks' treatment the pain left him, the Cheyne-Stokes breathing disappeared, and he could walk several miles without exhaustion. The prognosis in this case is distinctly good.

CASE IV.

A lady, aged 50, had suffered from palpitation and exhaustion for eight years, subsequent to an attack of influenza. She was in poor health, the attacks of palpitation occurred frequently at night, and her sleep was much disturbed. She had slight pain over the heart, was short of breath, and easily fatigued on exertion. There was marked flatulent distension of the stomach, the heart was dilated, and the pulse tension was 140 mm. The diet was strictly regulated and ammonium bromide prescribed. In a few days she began to improve, the palpitation was much less, the digestion better, and she slept well. After a month's treatment she said she was more active and was feeling stronger than for several years. The prognosis in this case is good.

CASE V.

A man, aged 47, consulted me in August, 1917. He had had rheumatic fever ten years previously, and had worked very hard for many years. He complained of a stabbing pain over the heart, but it did not extend down the arm. He often had attacks at night, when he also experienced a smothering feeling. He was breathless and easily exhausted, and the stomach was distended with flatus. The heart was dilated; the tension of the pulse was 160 mm. He was carefully dieted and advised to reduce the amount of his daily work as far as possible, but at the same time my prognosis in his case was bad. I saw him in September, 1918, when he was much improved; the pain was less, and although he still had a smothering sensation at night there was less exhaustion, and he was able to get through his work fairly well. I saw him again in August, 1919, and found the improvement maintained. The pain was not so frequent, and he could walk three or four miles a day.

*The Mineral Water of Llangammarch Wells, BRITISH MEDICAL JOURNAL, October 24th, 1903.

ON THE DIRECT CULTIVATION OF TUBERCLE BACILLI FROM TISSUES.*

BY

G. HASWELL WILSON, M.B.,

LECTURER IN BACTERIOLOGY, GLASGOW UNIVERSITY; PATHOLOGIST, ROYAL HOSPITAL FOR SICK CHILDREN, GLASGOW.

THE method of isolating tubercle bacilli from tuberculous tissues described below was devised in the course of an investigation, undertaken on behalf of the Medical Research Committee, into the types of tubercle bacilli found in children. It depends on the use of (*a*) a special medium for culture, as described below, and (*b*) the trituration of the tissue with dry quartz sand before the application of antiformin to destroy contaminating organisms.

The efficacy of antiformin as an aid to the detection or cultivation of tubercle bacilli in sputum, etc., is generally recognized, and the benefit derived from its use may be said to depend on two factors. In the first place, the antiformin exercises a disintegrative action on tissues and cells and liquefies mucus, so that the organisms may be concentrated by centrifugalizing, and, secondly, contaminating bacteria are killed off. So far as sputum or

* The expenses of this research are being defrayed by the Medical Research Committee, to whom I have pleasure in recording my indebtedness.

other fluid material is concerned, the method as ordinarily employed (1919[1]) is satisfactory, since solution is effected in a comparatively short time and the tubercle bacilli are not damaged; but, in the case of tissues, prolonged exposure to the reagent may be necessary before the material becomes sufficiently fluid to allow of its being centrifugalized, and in these circumstances the growth of tubercle bacilli, as well as that of less resistant organisms, may be inhibited. In the methods here described the tissue material is reduced to a very fine state of division by mechanical means, and a very short exposure to the antiformin serves to destroy bacterial contamination.

Process.

The tissue to be investigated is cut up into small pieces with scissors, and is thoroughly rubbed up in a mortar with a small amount of dry sterile quartz sand. The rubbing up is continued till the fibrous tissue is disintegrated as far as possible, and the material forms a slightly moist, crumbling mass. The contents of the mortar are then washed into a wide test tube with 15 to 20 c.cm. of sterile saline solution. The sand is allowed to sediment for a few minutes; as it falls, it carries down with it any coarser particles of tissue which remain. The supernatant fine suspension is then pipetted off, and thoroughly mixed with an equal volume of 15 per cent. antiformin. After five minutes, during which it should be stirred continuously, the mixture is centrifugalized at high speed for a few minutes, and the supernatant fluid is discarded. The sediment is shaken up with sterile saline solution and again contrifugalized. The shaking up of the sediment with sterile saline solution and centrifugalizing are carried out three times in all, so that no trace of antiformin remains. The sediment resulting from the final centrifugalizing is used for making cultures, or, after emulsifying with a convenient amount of sterile saline solution, is injected into a suitable animal. It may be mentioned at this point that in none of a large number of films made from the sediment obtained by this procedure was any evidence found that the bacilli tended to be broken up. It is certain that their vitality cannot be seriously diminished as in some cases growth was obtained although the tubercle bacilli were present in such small numbers that none could be demonstrated in films. Further, in many instances, control cultures on agar were put up at the same time as the egg medium cultures. These invariably remained sterile.

Preparation of Medium.

The medium used is simple to prepare and is a modification of Dorset's medium (1919[2]), in which the contents of eggs are mixed with a tryptic digest of horse heart instead of with water. Various digests were tried, including horse heart digested for varying periods, Cole and Onslow's casein digest (1916[3]), and a tryptic digest of glidine. All the media containing a protein digest were found to yield a more rapid and abundant growth than the original Dorset medium, but the product which so far has given the most satisfactory result is that obtained by digesting horse heart with trypsin for a period of three weeks.

Preparation of Horse Heart Digest.

Take:

Horse heart, freed from fibrous tissue and fat as far as possible, and minced ...	500 grams.
Water	1,000 c.cm.

1. Render faintly alkaline to litmus, using 20 per cent. sodium hydrate, and heat slowly to 80° C.
2. Cool to 40° C. and add 1 per cent. liquor trypsin co. (Allen and Hanbury) and 30-40 c.cm. chloroform. Shake well and cork with a loose stopper.
3. Incubate at 37° C. for ten days, shaking daily.
4. Add a further 1 per cent. liquor trypsin co. and leave in incubator for another ten days without shaking.
5. Render slightly acid to litmus with glacial acetic acid and boil for fifteen minutes.
6. Leave overnight in ice chest and decant off clear fluid, or filter through Chardin paper.
7. Adjust reaction to 1.2 per cent. acid to phenolphthalein; autoclave at 118° C. for twenty minutes; cool and filter; sterilize.

It is important to test the reaction of the digest at intervals during the period of incubation, as it tends to become acid, and, should this occur, a further addition of alkali must be made till it is again just alkaline to litmus.

The contents of several fresh eggs are well beaten up, and the above digest is added in the proportion of one part to three parts of the beaten eggs and thoroughly mixed. The mixture is filtered through muslin to remove air bells and filled into tubes which are heated in the sloped position at 70° C. till complete solidification has occurred. The medium is then sterilized high up in the Koch sterilizer (to avoid bubbling) for twenty minutes on each of three succeeding days. Prepared in this way the medium forms a smooth slope, free from air bells, of a pale yellow colour. Glycerin is added to the medium before solidifying, when desired.

An important point to be observed in the preparation of Dorset's medium or of this modification is that the eggs used must be as fresh as possible. Commercial "fresh" eggs are often quite unsuitable, and the more nearly the eggs approximate to "new-laid" the better are the results likely to be. Whatever the component of new-laid eggs may be which renders their use in the preparation of media more favourable to the growth of tubercle bacilli, it not only resists the heating incident to sterilization, but is actually rendered more stable by it, since media prepared from fresh eggs retain their growth-producing properties for many weeks at least, whilst these properties are lost in a few days if the eggs are kept before being made into medium.

On this medium growth, both in primary cultures and in subcultures, is rapid, being visible, as a rule, in less than a week, sometimes in four days, and copious in less than three weeks. Bovine types of bacilli are markedly inhibited by the presence of glycerin in the medium, as occurs in Dorset's medium prepared in the ordinary way. The differences between the cultural characteristics of the human and bovine strains are very well brought out, the human type producing a copious, heaped up, dry and wrinkled growth, often with a slight brownish tint; the bovine a growth which is flatter, fairly smooth, and with a distinctly slimy appearance. So far, direct cultures of tuberculous material from twenty-five cases have been made on this medium, and in twenty-four of these growth has been obtained. The remaining case was one of tuberculous meningitis in which only one tubercle bacillus could be found in films from the sediment obtained on centrifugalizing a large amount of cerebro-spinal fluid.

SUMMARY.

1. The disintegration of tuberculous tissue and the destruction of contaminating bacteria by antiformin can be greatly facilitated by a preliminary trituration of the tissue with quartz sand.
2. This procedure appears to exercise no deleterious effect on the bodies of the bacilli or on their vitality.
3. The growth of tubercle bacilli on egg media of the Dorset type is enhanced when the media are prepared with a twenty-one day tryp ic digest of horse heart instead of with water.
4. Egg media intended for the growth of tubercle bacilli should be prepared from eggs which are as nearly as possible new-laid.
5. The addition of glycerin to such media inhibits the growth of bovine strains, and the other cultural characteristics of bovine and human strains are well defined.

NOTE.—Further experiments with these and other digests are being carried out with a view to the preparation of fluid media; and also, by the use of more delicate indicators, for the determination of the optimum reaction of the various components.

REFERENCES.

[1] Muir, R., and Ritchie, J.: *Manual of Bacteriology*, 1919, seventh edition, p. 297. [2] Ibid., p. 46. [3] Cole, S. W., and Onslow, H.: *Lancet*, 1916, ii, p. 9.

NASAL DRILL: AN INVESTIGATION OF ITS VALUE IN THE TREATMENT OF ADENOIDS.

BY

GERTRUDE H. HICKLING, M.D., D.P.H., B.Sc.

IN the *Lancet* of August 24th, 1918, and in several later issues, some remarkable results were published of the effect on adenoids of systematic nasal drill, as conducted by Mrs. Handcock. At that time, owing to the depletion of staff at the various hospitals, numbers of cases of adenoids waited month after month for operation. Thus the moment seemed opportune to ascertain whether the troublesome symptoms of these children could be alleviated by means other than surgical. I therefore went up to London and Mrs. Handcock kindly demonstrated the method to me.

Subsequently a class conducted on similar lines was held weekly for six months at the out-patient department of the Manchester Children's Hospital. For test purposes various types of cases were sent to the class. An average of twenty children attended, ranging in age from 3½ years to 14 years. The parents were present at the drill, and by their regular attendance showed their interest in the proceedings.

Method.

The children stand in rows with as much space as possible between each individual in a room with widely opened windows. Each child is given a piece of soft paper to serve as a handkerchief. Then at the word of command:

One: All stand erect (chest out, shoulders back, etc.).
Two: Hold paper ready (spread out in the left hand beneath the nostrils).
Three: Grasp the top of the nose (between the eyes, with the right thumb and forefinger, the elbow being raised to shoulder level) *leaving the nostrils open.*
Four: Blow down the nose (bowing the head forward and down and at the same time depressing the right elbow to the waist line, the top of the nose still being held).
Five: Breathe in.

Exercises three, four, and five are then repeated in a rhythmic manner about ten times, the action somewhat resembling that of a pump. After this each nostril is "pumped" separately in the same way, each side being held closed in turn. The soiled paper, which catches the discharge as it flows unimpeded from the uncompressed nostrils, is now burned and replaced.

The nose and its accessory sinuses having been to some extent cleared by this preliminary pumping, irrigation of the nasal cavity from above down is now obtained by means of a free flow of lymph induced by sneezing, thus: A mild, non-irritating nostril snuff is handed round. Mrs. Handcock's powder was used at first; afterwards a similar preparation made by the hospital dispenser, Mr. Teesdale, containing menthol and a soap basis. Each child takes a pinch of the powder, and lightly flicks the septum just within the nostrils. The powder is not sniffed up. This feeble stimulation is sufficient in the majority of cases to induce a sneeze. Immediately after sneezing "nose pumping" is resumed. Sneezing and pumping may then be repeated until discharge from the nostril ceases or becomes scanty. Lastly, nose breathing exercises are performed, the nostrils being used alternately and together.

The importance of nose breathing and of regular daily nose "toilet" is constantly emphasized, and powder is provided for the drill to be carried out at home.

Results.

General.—Improvement in the physique of the class was soon noticeable; the carriage is better, chests are fuller and shoulders less curved, mouths gape less, and there are fewer cases of sniffling and running noses. Mothers report greater freedom from colds, less restless sleep, and cessation of snoring. Speech is clearer and hearing more acute. One child got through the winter without having his "annual" February attack of bronchitis. No member of the class contracted influenza during either of the two epidemics, although in some cases other persons in the household had the disease. Improvement of appetite and of digestion and a gain in weight coincided in several instances with the disappearance of the nasopharyngeal discharge. One case of relapse after operation is now free from symptoms.

Local.—With the exception of a diminution, amounting in some cases to an actual cessation of the nasopharyngeal discharge, very little local change was observed in the throats—that is, the relief of symptoms is out of all proportion to the visible improvement in the local condition. Certainly in some cases slight shrinkage seemed to have occurred, but in no case could it be said that the growths had disappeared. This result is disappointing, in view of the cases recorded in the *Lancet* referred to above.

Nevertheless the experiment would seem to show that:

1. Cases where operation is inadvisable on general grounds may be relieved of their main symptoms by this method of nose drill.
2. Some cases of chronic nasopharyngeal discharge attributed to the presence of adenoids can be cured without operation.
3. Operation may be avoided, that is, rendered unnecessary in cases of slight adenoids.
4. Daily nasal drill lessens the chance of contracting infections.

Two special fields of usefulness of the drill suggest themselves in addition.

Post-operative.—To keep the nasal passages clear and so avoid recurrence.

Preventive.—The introduction of nose drill into the daily routine of nursery schools and infant schools should do much to bring about a decrease in adenoid case incidence and do away with the majority of those cases of sniffling, sore-nosed children to be seen by the dozen at any medical inspection of school children.

In conclusion I should like to take this opportunity of thanking the hospital staff for permitting and assisting the experiment, more especially Dr. Lapage, at whose out-patient clinic the class was held, and who, on his return from service overseas, allowed me to continue the class, and Dr. Arnold Jones, aural surgeon to the hospital.

Note by C. P. LAPAGE, M.D., M.R.C.P.

On my return I found that Dr. Hickling, who had been conducting my out-patient department during my absence, had instituted a nasal drill class. I asked her to continue to hold the class in order to finish the experiment. From personal inquiry I can support all that Dr. Hickling has said about the progress and relief of symptoms in those cases who had not markedly enlarged tonsils and adenoids. The results certainly justify the continuation of this class, and I intend to hold a further trial, and if successful, to make the class part of my out-patient practice for a certain selected class of case.

One does not for a moment wish to give the impression that cases of hypertrophied tonsils and adenoids of any size can be cured without operation, because no amount of drill can remove tissues which are hypertrophied; but some cases are inflamed and swollen rather than hypertrophied, and in such there is no doubt that methods making for removal of stagnation and chronic inflammation are a very important factor in treatment. It is quite possible for reduction of inflammation to cause shrinking sufficient to relieve symptoms in mild cases. It is not an unknown experience to find that in cases in which operation has been decided upon but which have had for some reason or other to wait for a little time for that operation, the tonsils and adenoids have shrunk so much in the interval that operation has become unnecessary.

I hold that the majority of cases of tonsils and adenoids are due to infection, which becomes chronic and leads to obstruction, first by inflammation and swelling and then by ultimate hypertrophy of the lymphatic tissues. Under modern conditions children are more exposed to infection than formerly, because they have so many more opportunities for such infection. Gatherings of children indoors, as at school and places of amusement, or in badly ventilated chambers such as trams and railway carriages, are specially fertile sources of infection. Other causes, such as debilitating factors acting on the general health and vitality, also play an important part, probably because they lead to lowered general resistance to infection. Again, irritating atmospheric conditions and any unhygienic state of the mouth have an effect, the former being especially shown by those cases who suffer from chronic catarrh and frequent colds in town atmospheres but do well in country air or at the seaside. Whatever the cause, there is no doubt that there is a very large number of cases of inflamed and enlarged tonsils and adenoids at an out-patient department who have troublesome symptoms and yet are not sufficiently bad to need operation, either because the enlargement is intermittent or because it is slight.

As a summary one can say that in cases with much hypertrophy the local results are, as can only be expected, poor, but in cases with inflammation and little hypertrophy the relief of symptoms such as headache, restless sleeping, and liability to colds, is marked. Nasal drill is therefore of great value for such cases, and it should also be of value as a post-operative measure. It is of value over and above the physical exercises employed, because the improvement in the nasopharyngeal symptoms was far greater than could have been accounted for by the mild physical exercises which were used as an adjunct to the nasal drill. For cases which are hypertrophic and not largely inflammatory, and which are therefore sent for operation, nasal drill may be useful as a post-operative measure. The best methods of conducting nasal drill and the period of time over which such exercises should be continued can only be determined by experiment.

SIR GEORGE FRAMPTON'S monument to Nurse Cavell has been placed in position at the point where Charing Cross Road meets St. Martin's Lane. The crowning figure on its lofty pedestal will look down on Trafalgar Square. Among the monuments of London it will be remarkable for its dignity and the originality of its conception.

MESSRS. CHAS. J. SAWYER, Ltd. (23, New Oxford Street, London), have issued a catalogue of works on medicine, surgery, anatomy, etc., from the sixteenth century to the nineteenth, with a selection of engraved portraits of medical men. The prices of both strike us as moderate.

ECTOPIA VESICAE TREATED BY IMPLANTATION OF THE URETERS IN THE RECTUM.

By C. C. HOLMAN, M.B., F.R.C.S.,
ASSISTANT SURGEON, NORTHAMPTON GENERAL HOSPITAL.

ECTOPIA VESICAE is a sufficiently rare deformity to justify publication of the following case:

A boy, aged 8 years, was admitted into the Northampton General Hospital in March, 1918, suffering from ectopia vesicae. He was small for his age and pale, exhibiting all the symptoms characteristic of his unhappy condition.

First Operation.

On March 15th, 1918, after the patient had been anaesthetized, a No. 1 gum elastic catheter was passed into each ureter for about three inches and tied in. A median incision was made through the bladder and a circular incision round each ureteral orifice. The ureters were then, in turn, freed by blunt-pointed scissors, taking care not to trespass on their blood supply. After a finger in the rectum had demonstrated its relations, a pair of fully curved forceps were passed through the anus and pressed against the rectal wall below the peritoneal reflection. A small incision was made, the forceps passed through and the right ureter with its catheter drawn into the rectum as far as it would go. The wound in the rectum was closed by one stitch which took a grip of the wall of the ureter. This procedure was repeated on the left side. The rest of the bladder was trimmed away and the wound left open. At the conclusion of the operation the catheters were withdrawn as they seemed calculated to do more harm than good by their presence in the ureters.

Subsequent Progress.

The patient's general condition remained good, but the temperature ran an irregular course for a fortnight, rising each evening to 101° or 102° F. The bowels acted naturally on March 17th, and by March 19th the boy could keep dry during the day. On April 6th there was thought to be some leakage of urine through the wound.

Second Operation.

On April 17th granulations were cut away, the skin edges undercut and brought together. Both ureters could be felt projecting into the rectum. The wound healed by first intention, and there was no leakage of urine.

Present Condition.

In January, 1920, the boy's general health is good and his gait normal. He has complete control over his urine, which he voids two or three times during the night and at intervals of from three to four hours during the day. The operation scar is sound and dry.

The operative procedure in this case was practically that described by Peters,[1] with the minor difference that the ureters were fixed by a stitch into the rectum and the catheters removed at the conclusion of the operation. There was probably some slight infection of the kidneys in this case, as shown by the irregular pyrexia and by thirst. It might be wise in a similar case to allow an interval of some weeks to elapse between the transplantation of each ureter, as suggested by Mayo.[2] He utilizes the sigmoid in preference to the rectum, but, in the hands of the average surgeon, such a procedure would involve more risk to the patient. Some writers seem to assume that by transplanting the trigone (Maydl) or the whole bladder (Moynihan) the risk of ascending infection of the kidneys is diminished. I know of no statistics which prove this assumption. The statement that the valvular orifice of the ureter is maintained after transplanting the trigone is open to question, as the transplanted portion of the bladder is necessarily severed from its nerve supply.

REFERENCES.

[1] Peters: BRITISH MEDICAL JOURNAL, June 22nd, 1901. [2] Mayo: *Collected Papers at St. Mary's Hospital, Rochester*, 1917.

THE late Mrs. Louise d'Este Oliver has bequeathed £3,000 each to the Elizabeth Garrett Anderson Hospital, Euston Road, N.W., and to the West Cornwall Dispensary and Infirmary, Penzance, £1,000 to the Middlesex Hospital for the Cancer Ward, and £200 to the Dunedin Hospital Guild, Dunedin, New Zealand.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A CASE OF DERMOGRAPHISM.

(From the Neurological Department, 2nd Northern General Hospital, Leeds.)

PTE. W., aged 20, was admitted to this hospital in May, 1919, with a gunshot wound of the right upper arm and ulnar nerve injury.

His attention had first been drawn to the ease with which his skin wheals three months previously when, while washing himself, he received a slap on his chest from a fellow patient, which was followed by a raised impression of the hand. Since then he noticed that a tight shirt wristband, a tight collar or bandage would cause a raised wheal on the underlying skin.

The words in the photograph were traced by moderately firm pressure with a blunt piece of wood. The urticarial wheals took about three minutes to develop fully. As they rose they were at first uniformly pink, but finally were white and bloodless in the centre with a bright pink border. They subsided in from half to three hours, according to the pressure used to create them, and vanished rather more quickly from the arms than from the back and chest. There was no itching of the skin. The readiness of the patient to sweat on slight exertion furnishes further evidence of vasomotor instability.

DERMOGRAPHISM.

The patient exhibited no signs of hysteria, and examination revealed nothing else abnormal either in the nervous system or elsewhere, except that, although a Yorkshireman, he spoke quickly, almost to the point of clipping and slurring his words, and unintelligibility.

His family history furnished no sign of neurotic heredity, his parents, brothers, and sister being quite healthy, and, as far as the patient knew, none presented this phenomenon of factitious urticaria.

The patient himself stated that he had always been healthy, was classified A1 on joining the army, and during his six and a half months in France suffered from nothing until he was wounded. The only other feature of interest is that about two months previous to his first noticing the condition he was in hospital in London, and whilst lying in the anaesthetic room waiting for some small operation a bottle of ether exploded and caught fire. He assisted the nurse to extinguish the flames, and was rather scared and tremulous afterwards. He was anaesthetized, however, and the surgical procedure carried out. There were no ill effects on recovering from the anaesthetic.

I have to thank Lieut.-Colonel C. E. Ligertwood, D.S.O., the administrator of this hospital, for permission to record the case.

H. S. CARTER, M.B., Ch.B.,
Captain R.A.M.C.(S.R.).

SUBLIMED SULPHUR IN MERCURIALISM.

MERCURIALISM is caused by the accumulative action of mercurial salts, but the exact mechanism is not definitely known, though two theories have been advanced, one by Almkvist and the other by Professor Gaucher.

Almkvist's Explanation.

Protein foods are pressed into the sockets of the teeth or into the recesses of the mouth. Here they are attacked by putrefactive anaërobic organisms, such as the *Spirochaeta dentium* and the fusiform bacillus of Plaut-Vincent. These bacilli form sulphuretted hydrogen. The mercury circulating in the capillary loops of the gums is precipitated as black mercury sulphide. The nourishment of the gums and the alveolar process of the jaw is interfered with and degeneration and necrosis of the involved tissue results.

Professor Gaucher's Explanation.

Mercury, on absorption into the system, becomes converted into a chlor-albuminate-peroxide of sodium and mercury. It is an irritating salt, and is not allowed to circulate freely, thereby

causing stomatitis and other symptoms of irritation. He recommends that sulphurous waters should be drunk, and reports a case in support of his theory. He further states that the irritating mercury salt is converted into a non-irritating mercury sulphide, which circulates freely in the system. The mercury sulphide is easily excreted and is well tolerated.

Professor Gaucher's theory, in view of the fact that sulphur improves the condition, is the more feasible.

As a prophylactic measure all tartar should be removed from the teeth at the commencement of treatment, although this may not always be possible. The teeth should be cleaned after every meal, using a tooth-brush, and a tooth-powder containing preferably potassium chlorate. As a mouth-wash, a weak solution of hydrogen peroxide should be used.

As a large percentage of the syphilitic patients who present themselves have bad teeth, and as time cannot be spared to send them for treatment by the dentist, and in view of the fact that the theory of Professor Gaucher appeared to me to be quite feasible, I resolved to try an experiment on this theory. As no natural sulphurous waters were available I put all the patients in this dermatological section who were being treated for syphilis by intramuscular injections of mercury on one teaspoonful of sublimed sulphur nightly (by the mouth). From the very beginning the results were astounding. Not only was mercurialism prevented, but patients actually suffering from the condition, who had frequently to be excused their weekly injections on this account, improved rapidly, and in the course of a short time were on full and regular treatment again.

After using the sulphur in this method I have obtained such confidence in its action that I would now waste no time in sending a patient to the dentist for preliminary treatment for a mouth condition, however bad it might be. I have even stopped prescribing gargles except in the worst cases, and then only as a preliminary measure. Patients are simply advised to "wash their teeth after meals."

This treatment has now been in progress for the past nine months, and in no case has mercurial treatment had to be suspended on account of mercurialism.

Barian Camp, India. G. IRVING, Captain R.A.M.C.

"ACUTE SUFFOCATIVE CATARRH."

I HAVE been much interested in the cases of acute suffocative catarrh lately published in the BRITISH MEDICAL JOURNAL.

I have seen two cases presenting similar conditions, but in both the patients were suffering from diabetes; one was not aware of his condition, the other knew he had at one time suffered from diabetes, but thought he had completely recovered:

CASE I.—I was called out late at night some years ago to see a young man who was a complete stranger to me. I knew nothing of his previous history; I learned he had suffered from some stomach complaint, and had, in fact, been up that same day to see a specialist in London. I found him suffering from extreme dyspnoea, and râles were heard all over the chest. I was presented with a vessel full of a pinkish-looking fluid, with a white scum; he had been expectorating this in large quantities. I was quite at a loss to account for the condition, but happened to think of lipaemia in diabetes, as described in Taylor's *Practice of Medicine*. The urine was found to be loaded with sugar. He died within twelve hours.

CASE II.—Some two years later I was called to a patient, also a young man, who was suddenly seized with difficulty in breathing. I found him sitting with a pail between his knees, into which he was expectorating a fluid similar in appearance to that in Case I. From my previous experience I at once told his wife that he was suffering from diabetes; to this she replied, "He has not got diabetes now; he had it at one time, but we thought he was cured." This patient also died within twelve hours. The urine was found to be loaded with sugar.

In Taylor's *Medicine* it is stated, "It has been found in a small number of cases that the capillaries of the lung are blocked by globules and masses of fat, and Drs. Saunders and Hamilton, who first described this, attributed the whole train of nervous symptoms to this 'fat embolism' of the pulmonary capillaries."

Kempston, Bedford. GEO. BUTTERS, M.B.

A BASKET-MAKING shop will be erected and equipped at the Enham Village Centre from a fund of £500 raised in the town of Southampton.

Reports of Societies.

OXYGEN THERAPY.

A DISCUSSION on the therapeutic uses of oxygen was held on January 20th, 1920, in the Section of Therapeutics and Pharmacology of the Royal Society of Medicine.

The discussion was opened by Mr. J. BARCROFT, C.B.E., F.R.S., who said that the subject of oxygen therapy was no new one, and it had now reached a stage at which there was considerable diversity of opinion. In such circumstances the best method of treating a subject was to produce facts, and the work of himself and his colleagues had been on those lines. His work on oxygen therapy had been limited to the treatment of a particular class of case—namely, soldiers and munition workers who had been gassed—and the endeavour of Miss Dufton, Major Hunt, and himself had been to get at the facts, formulate them in such a way that they should be simple, intelligible and capable of repetition, and take care that in their interpretation neither their opinions nor those of the patients should play a part.

Chronic Gassed Cases.

The cases treated were all chronic cases, and the treatment adopted was partly worked out from experiments on animals and partly from reports from France. The method adopted at Cambridge was simple.

A glass room of about 1,000 cubic feet capacity formed a living ward and contained three beds. The ward was gas-tight and fitted with air locks. The composition of the atmosphere within was kept at 40 to 50 per cent. of oxygen and 50 to 60 per cent. of nitrogen. The CO_2 and aqueous vapour were removed by passing the air from the ward through an external circuit containing scrubbers of soda-lime and calcium chloride and potassium permanganate.

The chief object in adopting this method was to attain simplicity and ensure that the only altered condition of the patient's life was the change in the composition of the atmosphere he breathed. No attempt was made to study the question of the best method of administration. Their object was solely to make observations on the results of oxygen treatment. For many purposes for which oxygen was wanted a chamber was clearly out of the question. The routine was to put the patient in the chamber from about 5 p.m. till 10 a.m. for five consecutive days. Between 10 a.m. and 5 p.m. the patients left the chamber for varying periods for exercise, etc. A chronic case of chlorine, phosgene, or chloropicrin poisoning usually complained of one or both of the following symptoms: nocturnal attacks of dyspnoea and physical distress on exertion out of all proportion to the effort put forth. The latter afforded the better means of obtaining an objective indication of the patient's condition. The response to exertion of either the circulatory or the respiratory system might be taken as the guide. Each had its advantages and drawbacks. The pulse was easy to count, its variations in rate were susceptible of simple and accurate statement, but its significance in relation to the strain put upon the heart or the volume of blood propelled round the body was obscure, whilst the mechanism of its regulation was also obscure at the time of their experiments. The respiratory system was in some respects more hopeful: not only the frequency of the respiratory rhythm could be measured, but the total ventilation, the composition of the air expired and of that retained in the lung, and the depth of respiration could be recorded. On the other hand, the respiration was more under the influence of the will than was the pulse.

Results of Treatment.

In the first fourteen cases studied they took the response of the pulse to effort as the criterion; in the last twelve the respiratory response. The procedure with regard to the pulse was as follows:

After a general examination the patient was made to rest for fifteen minutes. His pulse was then counted. He was given an exercise to perform, the severity of which was judged appropriate to his condition. His pulse rate was counted again after the exercise, and the time observed which elapsed between the end of the exercise and the return of the pulse rate to within six beats per minute of its resting value.

In nearly every case the pulse of the gassed man took an unduly long time to return to its normal. These same observations were made immediately after treatment. Every one of the patients received more or less benefit as judged by this test, but the degree of improvement naturally varied.

A typical case was that of S., gassed April, 1915, presumably with chlorine; treated October, 1917. Pulse before treatment took nine to ten minutes to fall to within six beats per minute of resting rate after test exercise. After treatment it returned in the fourth quarter-minute.

With regard to the question as to how long the improvement lasted they were able to give some data. Of five patients examined two and a half months after treatment three were normal as regards the response of their pulse rate to exertion and two were nearly normal. A sign which was frequent but by no means invariably present in cases gassed with chlorine or phosgene was a high red blood corpuscle count. It was largely the occurrence of this sign which suggested the oxygen treatment to them. Occurring as it did in persons exposed to an atmosphere deficient in oxygen, they argued that this sign in patients breathing a normal atmosphere showed that they were nevertheless suffering from want of oxygen and that an increase in the oxygen inspired might reduce the red count to a normal value. Observation fully bore out this expectation, the red counts falling after the oxygen treatment and being two and a half months later still lower than before treatment. The third sign, to which they paid a good deal of attention, was nocturnal dyspnoea. Of six cases in which such attacks were a marked feature one only showed no improvement. In four cases the attacks were completely and permanently abolished. No man had an attack during treatment.

Interpretation of Results.

With regard to the possibility that the results could be attributed to some subjective cause three remarks might be made: (1) It was unlikely that the red count would drop from 7.5 to 5 million as a result of suggestion. Moreover, in gassed rabbits the same phenomenon was observed. (2) As regards the pulse, twelve cases of D.A.H. not attributable to gassing were given oxygen. These taken as a whole showed no clear benefit. (3) As regards nocturnal dyspnoea. In one case oxygen was blown into the chamber in such a way as to make the patient believe that he was getting the treatment, while in reality he was not doing so, as the oxygen was expelled unknown to him as rapidly as it entered. He complained that the treatment did him no good and his nights were not improved. On the fourth night the oxygen treatment really began and he at once improved.

Dyspnoea Ratio.

Dr. G. H. HUNT said that, with regard to the respiratory symptoms in chronic gassed cases, their object at Cambridge was to find some exact method of measuring improvement. They were faced with the difficulty that there was no numerical measure of dyspnoea which satisfied their requirements. Any standard must fulfil three conditions:

First, it must be fairly constant in any one individual, provided his physical condition did not alter appreciably; secondly, it must give approximately the same result for a number of men in the same condition of physical fitness; thirdly, it must distinguish between healthy men and those suffering from any pathological cause of dyspnoea.

Their method was as follows: The subject breathed through a meter while at rest. His total ventilation and respiratory rate were noted. He then did a definite amount of work on a bicycle ergometer, and the observations were repeated during work and for several successive minutes after. A few experiments showed that total ventilation and respiratory rate in all these periods varied considerably in the same man, and were widely different in different healthy men. The above mentioned requirements were therefore not satisfied by these observations. It was well known that in healthy men the respiration after exercise returned to the state occurring during rest much more quickly than in breathless men. They found it impracticable to estimate the time taken after exercise for the respiration to return to the pre-exercise condition. Instead they compared the total ventilation during the second to fifth minutes after exercise with that during four minutes at rest. Dividing the former by the latter they obtained a figure which they called the "dyspnoea ratio." This ratio fulfilled their requirements satisfactorily. It was reasonably constant for the same individual doing the same work in a given time, it was approximately the same for ten healthy men who were in good training and for six who were in bad training, and it clearly distinguished between healthy men and those suffering from any disease known to cause dyspnoea. A chart was shown giving the dyspnoea ratios for a number of different subjects over a series of exercises of increasing severity. With light work the ratio of trained and untrained healthy men was approximately the same. With harder work the untrained man had the higher ratio. In gassed men the ratio was higher than in healthy men even with light work. These observations also afforded a measure of a man's efficiency as judged by his respiration. Healthy trained men doing 10,000 foot-pounds per minute for 1½ minutes had a dyspnoea ratio of 1.64. The dyspnoea ratio of gassed patients was found to rise to 1.64 when doing from 3,000 to 5,000 foot-pounds per minute for 1½ minutes. Therefore their efficiency was only 30 to 50 per cent. On applying this test to seven gassed patients both before and after oxygen treatment it was found that one did not improve at all, in one the efficiency rose 11 per cent. and in five between 17 and 21 per cent. In three of these cases the efficiency rose to over 70 per cent. as compared with the value 77.5 per cent. found for untrained healthy men. In the other two cases the efficiency was but slightly less.

Anoxaemia.

Dr. J. S. HALDANE, F.R.S., wished to emphasize two points: (1) That very slight anoxaemia had a very serious effect if persisting for a long time. For example, seriously unpleasant symptoms of mountain sickness often followed exposure for some hours to slight lowering of the oxygen pressure of the atmosphere. The same effect followed slight CO poisoning, and the serious symptoms were apt to be delayed and come on after the cause provoking them was no longer operative. (2) That anoxaemia was very common in acute illnesses. In such cases it was desirable to prevent the anoxaemia and to do so at an early stage. If not ameliorated the condition was likely to become serious. The failure to recover in fresh air after CO poisoning referred to above was due to want of oxygen, and not to the effect of some obscure toxin. A reliable method of detecting slight degrees of anoxaemia was to administer oxygen and note any resulting change of colour. If anoxaemia were present the lips would become redder. The occurrence of anoxaemia in acute illnesses was well shown by recent work in America. Stadie had analysed the gases of arterial blood in cases of pneumonia, etc. Nearly all showed a deficiency in the degree of saturation of the blood with oxygen, which might amount to as much as 50 per cent. in some cases. Such cases with only half the normal amount of oxygen in the arterial blood all died. Similar results were obtained in heart disease and bronchitis. Anoxaemia (deficiency of oxygen in the arterial blood) might be due to two causes:

1. Thickening of the alveolar epithelium of the lungs. This was studied years ago by Lorrain Smith in lungs injured by exposure to excessive pressures of oxygen, and was best seen in cases of phosgene poisoning.
2. Unequal ventilation of different parts of the lungs.

He had noticed that, in patients suffering from the chronic effects of gas poisoning, the type of respiration was commonly very shallow. Working with Colonel Meakins and Captain Priestley at Taplow he found that artificially induced shallow breathing in healthy people caused anoxaemia, even though the rate of respiration was increased sufficiently to maintain the CO_2 output at its normal level, and though the total ventilation per minute was increased. The shallow ineffective breathing of the chronic gassed cases similarly caused anoxaemia. They suffered from dyspnoea, not merely from hyperpnoea. The same effect on the breathing and consequent anoxaemia was produced by fatigue and by exposure to lack of oxygen. A striking symptom of anoxaemia was nocturnal attacks of dyspnoea, which were relieved in a remarkable manner by the administration of oxygen.

War Experiences.

Colonel S. L. CUMMINS, C.B., said that it was unfortunate that knowledge tended to be shut up in the heads of ultra specialists. There was no one in the Regular Army when the gas attacks began who had an expert knowledge of the methods of oxygen administration and the indications for its use. By the end of the war, however, the effects of oxygen were much clearer and more widely known, but were not yet completely explained. The impressions he had gathered by the end of the war were: (1) That it was certain that oxygen did much good in acute gas cases, pneumonia and shock; and (2) that many medical men were reluctant to use oxygen as freely as it should be used. As regards the method of administration, it was easy to put a patient in an oxygen chamber, but in some cases, especially where anoxaemia was intense, it was difficult to give oxygen by means of a mask. For instance, Dr. Haldane's apparatus was excellent, but was difficult to apply in some cases. It was clear that further research was required as to methods of administration, and perhaps it might be found that a small modified oxygen chamber enclosing the patient's head might be of value.

Lieut.-Colonel C. G. DOUGLAS, C.M.G., said that in France he saw acute cases of gas poisoning. The good effects of oxygen were seen after the first gas attack, even before the time when it was possible to be sure how much good the oxygen did. Four methods of administration were used in France: (1) A simple tube and funnel; (2) the ordinary nitrous oxide apparatus; (3) the nasal tube; (4) Dr. Haldane's apparatus. With patients suffering from anoxaemia much good was done by giving oxygen, provided that the patient got the oxygen. Unfortunately, by many methods in use the oxygen was expended on the surrounding air, and not on the patient. Colonel Douglas went on to describe the remarkable effect of oxygen in two representative cases, and laid stress on the great improvement in all symptoms brought about by oxygen, more especially in the pulse—for example, a weak, irregular pulse of 140 changed to a stronger, regular pulse of 120 immediately oxygen was breathed, but relapsed when the oxygen was stopped. He also laid stress on the necessity for continuity of administration as long as symptoms of anoxaemia persist, and the need for increasing the amount given until the beneficial effect was observed. It was often noticed that the vital necessity for continuity of administration was not realized, and it was not unknown for bad cases to be given oxygen for five minutes only in each hour. Such a proceeding was useless. Apparently there was a tendency for medical officers to be alarmed at the apparatus. In badly gassed cases it was clear that the earlier the oxygen treatment was begun the quicker the recovery of the patient. Some cases which were apparently moribund were so far improved by two hours' oxygen treatment as to be in a state to be further benefited by venesection.

Dr. RYLE said his observations were clinical and dated from the gas attack of August, 1916. He found the funnel method ineffective and improvised masks were not tolerated. The nasal catheter method devised by Captain Adrian Stokes was a great improvement. It had the advantage that the patient could adopt any position, was easily fed, and could and did readjust the catheter himself if necessary. A difficulty with the Haldane mask was caused by the oedema fluid in phosgene cases. As regards oxygen treatment after gassing the cases might be divided into three groups: (1) Mild—sufficiently treated by fresh air; (2) medium—sufficiently treated by pure oxygen for five minutes in every fifteen; and (3) severe—requiring oxygen continuously. Other conditions in which oxygen was found to do good were the lung oedema of trench nephritis, acute purulent bronchitis, and severe haemorrhage.

Dr. R. H. PETERS corroborated the remarks of Colonel Cummins and Colonel Douglas with regard to the good effects of oxygen in gassed cases. He described one severe case of bronchopneumonia which he had treated with oxygen. The patient was getting progressively worse, the breathing became feeble and the pulse bad. Cheyne-Stokes respiration set in. Two litres of oxygen per minute added to the air breathed for ten minutes in each hour initiated an improvement which was continuous.

Oxygen Wards at Stoke.

Dr. SHUFFLEBOTHAM said he must omit much of what he had meant to say, for want of time. He described the oxygen wards at Stoke-on-Trent, installed with the help of the Medical Research Committee. They had treated one hundred patients in fourteen months. The cases were mostly gas poisoning, but included some cases of pneumonia and two of pernicious anaemia. Many of the cases improved and could resume their work after the treatment, though previously quite incapacitated. The cost of the oxygen was a difficulty. At Stoke it was £1 3s. 6d. per day per patient despite the utmost economy. Dr. Harker had suggested the use of the residual gas after removal of nitrogen from the air for technical purposes. Possibly liquid air might be an economical source of supply. The question of oxygen therapy opened up a great field of usefulness and research. Dr. Shufflebotham showed an interesting model of the oxygen wards at Stoke, and drew attention to the necessity for great care in the use of oxygen chambers, owing to the danger of fire.

Dr. SOWRY described the work done with the oxygen chambers at Stoke. He thought the chamber the most efficient way of giving oxygen; there were no complaints from patients so treated. Seventy-seven cases of gassing in soldiers and munition workers were treated. The patients were the victims of various kinds of gas and came under treatment at varying periods after gassing. The routine treatment was a stay of five to six days for twenty hours each day in the chamber; oxygen at first 25 to 40 per cent., later 50 to 60 per cent. Full notes of the cases were taken, *x*-ray examination of the chest made, and the patients were submitted to exercise tests before and after treatment. These tests were: (1) A short and acute effort, (2) the stair test, and (3) eighteen minutes' vigorous walking on the level. The patients showed the usual symptoms of the effort syndrome, cough and nocturnal dyspnoea. There was cyanosis in 15 to 20 per cent. of the cases, but it was never severe. Emphysema was noted in 40 per cent. Râles, etc., were common, and fibrosis was shown by the *x* rays. Two cases of active tuberculosis were proved bacteriologically. The patients reported for re-examination two, four, and six weeks after treatment. The majority remained much better than before. Of 70 cases 23 were very much improved, 30 were much improved, 10 were improved and 6 were not improved. There was marked improvement in asthmatic symptoms and in the response of the heart to exercise. In 29 cases blood counts were made. Polycythaemia occurred in some cases, but was not the rule. Indeed, low counts were not uncommon. Whether the count was low or high, it tended to return to normal after oxygen treatment. No other treatment was allowed. Two cases of pernicious anaemia were improved subjectively, but later, after the oxygen treatment was stopped, continued to get progressively worse. In five acute respiratory cases very good results were obtained.

Dr. P. HAMILL described the effects of oxygen on cases of opium poisoning investigated by Dr. Clarke and himself. They had Cheyne-Stokes respiration, and the blood pressure rose to nearly normal after the period of respiration, and fell during the apnoeic periods. Oxygen made the respiration more regular, and kept up the level of the blood pressure. Dr. Hamill suggested that sodium peroxide might be a useful source of oxygen on the score of cheapness; the drawback was the heat engendered.

After the meeting Dr. HALDANE demonstrated the apparatus devised by him for the administration of oxygen.

HYDATIDIFORM MOLE.

AT a meeting of the Edinburgh Obstetrical Society on January 14th Dr. F. J. BROWNE gave a lantern demonstration on the histology of hydatidiform mole in its relation to prognosis. He claimed that Langhans's cells were found in hydatidiform mole in two stages: (1) The small inactive cell lying between the syncytium and the core of the villus; (2) the large cell in active mitosis, which before invading the decidua lay in closely packed masses forming a mosaic pavement. These large cells indicated malignancy. They must not be confounded with the "vacuolation cell" formed from syncytium by the appearance of vacuoles around the syncytial nuclei. These new cells lost their vacuolation, their protoplasm became more

condensed, and they ultimately formed the syncytial wander cell. When present in relatively large numbers the vacuolation cells indicated a benign mole. Before invasion of decidua these cells were easy to distinguish from each other, but afterwards, owing to the tendency of both to become syncytial-like, and also to the presence of decidual reaction cells, their differentiation became more difficult. The amount of syncytium present had no prognostic significance. For the histological prognosis uterine curettings alone were necessary. The paper was favourably commented on by Drs. BERRY HART, BALLANTYNE, LAMOND LACKIE, JOHNSTONE, and YOUNG. It was pointed out by the speakers that if Dr. Browne's observations were confirmed, valuable information would be at hand in regard to the question as to which cases of hydatidiform mole should be considered malignant and which simple.

INFANT WELFARE CENTRES.

A MEETING of the London Association of the Medical Women's Federation was held on January 20th, at 11, Chandos Street, W., the President, Mrs. FLEMMING, M.D., in the chair. A discussion on infant welfare centres was opened by Dr. FLORA SHEPHERD, who described the organization of such work. She said that in order to be successful each centre should be under the administrative control of the medical officer of health, and that the medical officer of the centre should send him monthly reports of the work done. Each centre should be responsible for all the work required so as to avoid overlapping by health visitors sent by different authorities. No centre should be more than twenty to thirty minutes' walk from the homes, and not more than thirty children could be satisfactorily attended to in one session of two and a half hours. In a well organized district there should be an attendance of 60 to 70 per cent. of all the births notified. Antenatal consultations should be entirely separate from infant welfare consultations. Mrs. ROBERTSON, M.B., B.S., in a paper on natural feeding of infants, referred to some of the causes of inability to feed infants, and described how they could be helped by treatment at welfare centres. Among the points mentioned were nasal obstruction in the babies, depressed nipples in the mothers, and bad health due to dental disease. She added that some babies got on well when fed only four times in twenty-four hours, and that it was generally better not to wake them for feeding. Dr. C. A. KING, in a paper on the artificial feeding of babies, said that no rules could be given, as cases had to be judged on their own merits, and methods appeared to vary within fairly wide limits. She advised fresh cow's milk, boiled; in estimating quantities, weight and size are of much more importance than the baby's age. Dried milk should be used as a routine when hygienic or atmospheric conditions were unfavourable. Dr. King found that dried milks were better tolerated than ordinary cow's milk by infants with feeble digestive powers, especially when prepared by the Bévenot-de-Neven as compared with the Hatmaker process. She preferred plain desiccated milk, which could always be modified as required, to those modified in preparation. The antiscorbutic and antirachitic properties of milk were not decreased to any great extent by desiccation, but fresh fruit or vegetable juices should invariably be given with a dried milk diet.

THE University Medical Advisory Committee at Johannesburg has recently presented a report on the organization of the medical school to the senate of the University College; its recommendations are published in full in the *South African Medical Record*. It is advised that the chairs of anatomy, physiology, and pharmacology should be whole-time appointments and that the professors should receive a salary of £1,000 a year each, but that the chairs of medicine, surgery, obstetrics and gynaecology, pathology and bacteriology should be part-time appointments. The suggestion to make the professors of clinical subjects whole-time officers also was considered, but rejected, as it was felt that the teachers of the practical branches must be men in daily contact with the practice of the profession, as the chief aim of the medical school is to train general practitioners and not specialists. The course contemplated extends over six years. The first year would be given to the preliminary sciences, the second and third to anatomy and physiology, and organic chemistry, but in the third year the second term would be given to elementary medicine, surgery, pharmacology, pathology and bacteriology. The fourth and fifth years would be clinical; the sixth year would be given to special subjects. There would be five professional examinations, at the end of the first, second, third, fourth, and sixth years.

Rebielus.

THE SCOTTISH WOMEN'S HOSPITALS.

AMONG the books on the medical aspects of the great war one of the most attractive is undoubtedly *The History of the Scottish Women's Hospitals*,[1] edited by Mrs. SHAW MCLAREN, and told almost entirely by the women who did the work. It is most appropriately dedicated to the memory of the late Dr. Elsie Maud Inglis, who originated and organized this great undertaking by Scots medical women. Interest, therefore, naturally centres in the personality of this devoted woman, who, after qualifying in 1892, practised in Edinburgh, where she took an active part in the medical education of women and was for some time honorary secretary to the Scottish Federation of Women's Suffrage Societies. In the appreciative chapter on "Our Chief," Miss Mair writes: "In outward appearance the leader of the Scottish Women's Hospitals was no Amazon, but just a woman of gentle breeding, courteous, sweet-voiced, somewhat short of stature, alert and with the eyes of a seer, blue-grey and clear." After the outbreak of war, as in the case sixty years before of Florence Nightingale, with whom she is compared, all her energies were devoted to one object. After the offer of a unit had been declined by the War Office, she organized three units entirely staffed by women, which went, in December, 1914, to Calais, Royaumont, and to Serbia. Early in 1915 typhus became rampant in Serbia, and in May Dr. Inglis went out; in November she went through the great retreat before the German-Austrian invasion, and what this entailed is graphically expressed by a Serbian writer: "If the skies were all paper and the sea were all ink we could not even then write the sorrows of our country." The story of the retreat is fully told. After being a prisoner in Austria Dr. Inglis returned home, and at the end of August, 1916, took a unit with a personnel of 75 *via* Archangel to Odessa for service with the Serbian division of the Russian army; she went through the vicissitudes of the retreat from the Dobrudja; in November the unit was on its way home, but the leader was so ill that she passed to the land of shadows soon after landing at Newcastle on November 26th, 1917.

The story of the Scottish Women's Hospitals naturally falls into six parts, some of which have been mentioned above; they are the early days up to the establishment of the Calais unit, the history of the hospital at Royaumont (1914–18), Serbia (1915–16), with the Serb division in Russia and Rumania, continued work for the Serbians in Corsica and elsewhere, and the Girton and Newnham unit's work. The Calais unit, under Dr. Alice Hutchison, who had previously worked in Bulgaria during the first Balkan war, and later, in 1915, was active in Malta and Serbia, was busily occupied for three months with enteric among the Belgians. From December, 1914, to December, 1918, Miss Ivens, M.S., was in charge of the unit at Royaumont, and, with Miss Cicely Hamilton as administrator, rapidly transformed an abbey 700 years old and without light or water into a most efficient modern hospital. The Girton and Newnham unit, under Miss Louise McIlroy and Miss Sandeman, was for six months at Troyes in France and for three years at Salonica, and after the armistice was moved to Belgrade as the nucleus of the Elsie Inglis Memorial Hospital.

This volume gives a well written and well illustrated record which moves the reader to sincere admiration for all concerned.

X-RAY LOCALIZATION OF FOREIGN BODIES.

CAPTAIN HAROLD C. GAGE, of the American Red Cross Service, has published the results of his work in a book with the title *X-Ray Observations for Foreign Bodies and their Localization*.[2] It is a compact and well written essay, illustrated by numerous diagrams, radiographs, and photographs. These observations are based entirely upon

[1] *A History of the Scottish Women's Hospitals*. Edited by Eva Shaw McLaren. London, New York, and Toronto: Hodder and Stoughton. 1919. (Demy 8vo, pp. 408; 57 illustrations. 7s. 6d. net.)

[2] *X-Ray Observations for Foreign Bodies and their Localization*. By Captain Harold C. Gage. London: William Heinemann (Medical Books), Ltd. 1919. (Demy 8vo, pp. 87; 55 figures. 6s. net.)

the personal experience of the author and are the result of four years of war work. Having convinced himself that the usual report from the radiographic department—that a foreign body was situated so many centimetres under a certain mark made on the skin—was insufficient for the operating surgeon, he evolved the method of the three intersecting lines joining up three sets of two marks. Colonel Blake, of the U.S.A. Medical C rps, reports that as a result of this method, out of 306 localizations, 302 foreign bodies were successfully removed; in two of the other four cases the operation was abandoned for surgical reasons unconnected with localization.

This monograph is a valuable contribution to the many books and articles on the same subject which have resulted from war experiences. In addition to the standard method described, we come across, all through, various little hints which are helpful in difficult cases. The chapter on the method of localizing foreign bodies in the eye—a description of the work done by Drs. Belot and Fraudet—is of distinct value.

Now that the war is over the demand for this class of work must necessarily diminish, but for many years to come cases will be coming for examination—cases in which foreign bodies have been left undisturbed, but at a later date begin to give trouble. Books of this kind should be distinctly helpful to workers in *x*-ray departments.

THE PSYCHOLOGY OF EVERY DAY.

THIS volume on *Psychology and the Day's Work*,[3] by Mr. EDGAR JAMES SWIFT, Professor of Psychology and Education at Washington University, consists of a series of studies in which psychological principles are utilized to interpret the common matters of everyday life. The essays cover a wide range of subjects, the general trend of which is towards the elucidation of those factors in mental life which increase or diminish efficiency in the business and social world. With this end in view the question of adaptation, the process of thinking and acting, and the development of habits are fully discussed in the opening chapters. A consideration of the psychology of "learning" contains personal researches of the author, and incidentally includes interesting curves representing the scores of an enthusiastic golfer which should afford some ground for hope to the despairing beginner. They indicate steady, though undramatic, progress, with some bad days which will excite the sympathy of the reader. Under the heading of fatigue the author, in an account of much experimental work, furnishes a useful summary of the voluminous literature of the subject. A similar comment applies to the chapters on memory and the psychology of digestion, the latter containing an account of Pavlov's researches. A practical and ingenious investigation into the value of evidence is detailed in the chapter on "testimony and rumor."

A number of useful facts are gathered together in this volume, but there is perhaps a certain diffuseness of treatment which may make it difficult for the reader to acquire from it any fundamental view of mental life. Though the author draws freely upon incidents in daily life to make his points clear, yet there is a certain academic atmosphere about his book which fails to emphasize in certain directions the struggling, dynamic aspect of mental life; insufficient stress is, perhaps, laid on the conflict between instinctive trends and the demands of modern life to give a tone of vitality to the psychology here presented. The chapter on "our varying selves" might possibly have been developed less superficially along these lines. The volume, however, contains much of value and will be found useful, especially to those engaged in educational pursuits.

NOTES ON BOOKS.

THE *Cambridge Note Book for Practical Zoology*[4] is a most admirable member of its class. It is simple and to the point. The short introduction gives an excellent and concise statement of the importance of personal dissection and of making graphic records of the work done. A short account is also given of the more general methods of fixation, staining, and mounting of specimens. The book covers a good representative field, and if it be used as intended it should prove invaluable to the student.

The subject of open-air schools and sunshine schools for tuberculous and debilitated children is discussed in a French pamphlet[5] published by the Comité National d'Education Physique et d'Hygiène Sociale of Paris, with details of some of the work being done in this direction in France. Sunshine schools open at the end of April and close in mid-October, and rules for the amount of exposure to the sun's rays have been formulated. Details of the equipment and conduct of such schools are given, and the pamphlet is copiously illustrated with photographs showing how they are carried on in practice. The little book is an encouraging comment on the open-air system started by the London County Council in 1907, and will interest educationalists as well as medical men.

Professor S. B. SCHRYVER'S *Introduction to the Study of Biological Chemistry*[6] is a brief and clearly written account of the elementary principles of organic chemistry, as seen from the point of view of a biologist. But for the fact that it interests itself mainly in the organic substances formed by the living body, and eschews mathematics as far as is possible, both admirable features so far as students of medicine and biology are concerned, the book resembles other introductory accounts of the subject. In addition, it contains excellent brief summaries of the present views on important subjects, distinguished by being printed in italics.

Two short but well written books for the industrial chemist are *Catalysis in Industrial Chemistry*,[7] by Professor HENDERSON, and *The Applications of Electrolysis in Industrial Chemistry*.[8] Both these highly scientific and technical works deal with subjects of great and increasing interest in the manufacturing world, concerned as they are with the practical applications of science to technology. Both are well furnished with references to the literature of the subjects of which they treat.

A third edition of the handbook of physiology[9] by ZUNTZ and LOEWY, of Vienna, has been published. The first edition appeared in 1909. It is a big book, without any outstanding merits or demerits, and may occasionally be of use to British teachers for purposes of reference. British students have many works better balanced and written on a sounder philosophical basis.

[3] *Psychology and the Day's Work: A Study in the Application of Psychology to Daily Life.* By Edgar James Swift. Professor of Psychology and Education in Washington University, Saint Louis. London: George Allen and Unwin, Ltd. (Post 8vo, pp. viii+388. 10s. 6d. net.)

[4] *The Cambridge Note Book for Practical Biology (Zoology).* Edited by J. Stanley Gardiner, M.A., F.R.S., and L. A. Borradaile, M.A. Sixth edition. London: H. Frowde, and Hodder and Stoughton. 1919. (Cr. 4to, pp. viii + 76. 5s. net.)

[5] *L'Ecole de Plein air et L'Ecole au Soleil.* By MM. P. Armand-Delille, Médecin des Hôpitaux de Paris, et Ph. Wapler, Médecin du Dispensaire Antituberculeux de Versailles. Paris: A. Maloine et Fils. 1919. (Méd. 8vo, pp. 30; illustrated. Fr. 4.)

[6] *An Introduction to the Study of Biological Chemistry.* By S. B. Schryver, D.Sc.Lond. London: T. C. and E. C. Jack, Limited. 1918. (Cr. 8vo, pp. 340. 6s. net.)

[7] *Catalysis in Industrial Chemistry.* By G. G. Henderson, M.A., D.Sc., LL.D., F.R.S. Monographs on Industrial Chemistry. Edited by Sir Edward Thorpe, C.B., LL.D., F.R.S. London: Longmans, Green and Co. 1919. (Demy 8vo, pp. ix+202. 9s. net.)

[8] *The Applications of Electrolysis in Chemical Industry.* By Arthur J. Hale, B.Sc., F.I.C. Monographs on Industrial Chemistry. Edited by Sir Edward Thorpe, C.B., LL.D., F.R.S. London: Longmans, Green and Co. (Demy 8vo, pp. 148; 58 figures. 7s. 6d. net.)

[9] *Lehrbuch der Physiologie des Menschen.* 1920. Leipzig: F. C. W. Vogel. (Sup. roy. 8vo, pp. xiv + 789; 302 figures. M. 38.)

ROYAL MEDICAL BENEVOLENT FUND.

AT the last meeting of the Case Committee sixteen cases were considered and £224 10s. voted to twelve of the applicants. The following is a summary of some of the cases relieved:

Daughter, aged 61, of M.R.C.S.Eng. who died in 1861. Until recently has been a school matron, and received from £30 to £40 a year. Now unable to obtain a post, owing chiefly to age, and to the demobilization of so many women. Voted £10.

Daughter, aged 46, of M.R.C.S.Eng. who died in 1908. Has no income, and is entirely dependent on her mother, who is an annuitant of the fund. Rent, 15s. for one room. Voted £12 in twelve instalments.

Daughter, aged 67, of L.R.C.S.Edin., who died in 1893. Applicant lets rooms, from which she receives about £40. Has occasional help from another charity. Suffers from ill health. Cannot manage owing to the high cost of living. Relieved three times, £31. Voted £18 in twelve instalments.

Daughter, aged 67, of M.D.Edin. who died in 1873. Applicant lives with two sisters, and they take in paying guests. Receives £48 from dividends and £30 from sister-in-law, and £15 by teaching. Requires help towards paying coal bill. Relieved four times, £45. Voted £15.

Widow, aged 39, of M.R.C.S.Eng. who died in 1914. Has no income, and is living with mother, whose income is limited. The Guild is helping to educate her one daughter, aged 11. Suffers from ill health. Relieved five times, £60. Voted £12 in twelve instalments.

L.R.C.P. and S.Edin., aged 62, widower. Receives £20 from another charity, and £50 from his only son. Rent and rates £28 10s. Suffers from ill health. Relieved fifteen times, £180. Voted £12 in twelve instalments.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters J. Symonds, C.B., F.R.C.S., at 11, Chandos Street, Cavendish Square, London, W.1.

The Royal Medical Benevolent Fund Guild is overwhelmed, in these days of exorbitant prices for clothing and household necessaries, with applications for coats and skirts for ladies and girls holding secretarial posts and suits for working boys. The Guild appeals for second-hand clothes and household articles for the benefit of the widows and children who, in happier times, would not have needed assistance. The gifts should be sent to the Secretary of the Guild, 43, Bolsover Street, W.1.

THE STATE AND VENEREAL DISEASE.

POLICY OF THE MEDICAL WOMEN'S FEDERATION.

WE have received this week a print of some suggestions as to the duty of the State in the control of venereal disease, drawn up by a committee of the Medical Women's Federation, and approved by the members of that body at an extraordinary general meeting held on December 13th, 1919. The committee begin by stating their belief that the problem is highly complex, and that its consideration involves far-reaching social and moral questions which cannot be separated from it.

To grapple successfully with these diseases will involve a radical reform of the social conditions and moral habits of the society in which the disease flourishes.

This, then, in the committee's view, is the chief and most important part of the task with which society is faced; but, while the campaigns against other infectious diseases and against the conditions under which they flourish can be simultaneously pursued, in the case of venereal disease there is the risk that activities along one line may, unless wisely planned, bring to nothing the other half of the campaign. Hence the need for great caution and a study of the problem from all its aspects and in all its implications before deciding upon action.

The principal cause of the dissemination of venereal infection in a modern community is promiscuous sexual intercourse. Any action which neglects this fact, or which may even tend to increase promiscuous intercourse, is bound, we believe, to fail to decrease the spread of the disease, and may even lead to its increase. Much the most important factor in the cure of the disease is early treatment, and any method of dealing with the disease which is likely to lead those infected to conceal their condition and to delay treatment will be a most dangerous expedient, and may easily lead to a serious increase of the disease. These two facts must be borne in mind in considering the desirability of any method of grappling with the disease, and we believe that no method has any chance of success which neglects either or both of these factors.

The memorandum next discusses the six principal means so far suggested for a direct campaign against venereal disease. Regulation, that is to say examination and registration of prostitutes, is wholly rejected. Notification, the committee think, is impossible without a legally accepted criterion of infectivity; and even were accurate notification possible they hold it undesirable because it would do nothing in itself to diminish infection if it were merely numerical and no names were given. On the other hand, notification by name, as a step towards compulsory treatment, would lead to concealment of early cases and delay in treatment during the curable stage. The difficulties in the way of penalizing those who infect others are held to be insurmountable, this view being based on the working of Regulation 40 D under the Defence of the Realm Act; nor would extension of the offence to both sexes in any way diminish the difficulties. Moreover, there is the practical difficulty of obtaining trustworthy evidence upon which a verdict can be based as to whether the plaintiff had been infected by the defendant or vice versa, or in some other way.

With regard to prophylaxis and the so-called "packet system," the committee associate themselves with the findings of the Interdepartmental Committee on Venereal Diseases in connexion with Demobilization.[1] They hold that the immunity obtained in this way among the civil population would certainly be incomplete. They agree that the issue of prophylactic packets "tends to give rise to a false sense of security, and thus to encourage the taking of risks which would not otherwise be incurred," and that "under any mechanical system which does not give absolute protection, the venereal incidence must be proportionate to the risks taken." They hold that the increase in the number of exposures which they consider would certainly follow the introduction of such a system might well increase absolutely the spread of the disease. While strongly impressed with the dangers of this system the committee do not advocate the retention of the disease in order that the fear of infection may deter from promiscuous indulgence. Their point is that such indulgence would not be safe, while the attitude of the State would encourage a false idea that it was safe and countenanced by the authorities, and so would lead to increased indulgence and quite possibly to increased disease. The provision of "early preventive treatment" at the public expense at day and night clinics is condemned for the same reasons. But they add:

The sale by chemists, to those who wish to purchase them, of calomel ointment or of permanganate of potash solution is a matter with which we have no concern as long as the public is aware that these things are not remedies for venereal disease and that chemists are under a legal obligation not to sell them for the purpose of treatment of these diseases.

Having thus rejected one by one these six lines of attack upon venereal disease the committee proceed to define their own constructive policy. First, there must be a recognition of the causes of casual intercourse in a modern community, and then an organized attempt to get rid of them. Among the causes of promiscuous sexual intercourse they include the public opinion which accepts a different standard of morals for men and women. They urge social reforms which would tend to lessen the difficulties in the way of continence under existing social conditions. Such are:

Facilities for early marriage.
Facilities for divorce, where otherwise people would be doomed to a celibate life for causes such as, for example, incurable insanity and chronic alcoholism; such facilities for divorce to be equal for men and women.
Adequate reform in housing conditions.
Provision by the public authorities of opportunities for both sexes to enjoy rational recreation together and share their social life and public work.
Provision for study and higher education for both sexes and a real share in the organization of the society in which they live.
Discouragement of the system of segregating either sex for long periods of time, thus removing them from the influences of home and normal social relationships.
Recognition of the important part played by alcohol as an ally of promiscuous intercourse and so of venereal infection.

The training of children in sex and allied subjects and the inculcation of self-control from infancy are considered to be an essential part of the campaign. Such teaching should, at any rate in the earlier stage, be given by the parents, but "it is the ultimate duty of the education and health authorities to see that adequate teaching is provided."

Among other measures the committee advocate raising the age of consent to 18 for both sexes; the systematic registration and inspection of lodgings for young persons (but this, they insist, must not be done by the police); stern punishment of brothel keepers; reform of police court procedure by requiring the presence of a respectable woman unconnected with the case during its hearing; and an adequate force of women police armed with full powers. They admit the urgency of the danger and the need for prompt and effective action, but think that the results of the radical measures of reform they suggest would be quickly apparent and cumulative. "Public opinion can be changed in a generation, nay, in a few years, and the instruction of children may bear fruit practically at once." Beyond this they urge free secret efficient treatment in every area for all patients suffering from venereal disease, and they deprecate any legislation that might in its effect deter patients from seeking advice at the earliest possible moment. The address of the Medical Women's Federation is 9, Clifford Street, New Bond Street, London, W.1.

[1] BRITISH MEDICAL JOURNAL, September 13th, 1919, p. 349.

THE FUTURE OF VOLUNTARY HOSPITALS.

SCHEME FOR RED CROSS ASSISTANCE.

A LARGELY attended conference of the British Hospitals' Association was held at St. Thomas's Hospital, London, on January 23rd, under the presidency of Mr. WADE DEACON, chairman of the Liverpool Royal Infirmary. The purpose of the conference was to consider a draft scheme for Red Cross assistance for the voluntary hospitals of the country. The proposal is to use on behalf of the voluntary hospitals the collecting organization which was evolved during the war by the Joint Committee of the British Red Cross Society and the Order of St. John at the time when it was responsible for 1,600 auxiliary war hospitals. The Joint Committee has practically finished its work, but it proposes to live on as a Joint Council and to act as a channel through which the generosity of the public may flow out to the relief of civilian suffering. It is suggested that in addition to collecting funds, the Red Cross (which term is understood to include the two bodies forming the Joint Council) shall help the hospitals by acting as a central dépôt and office for information in various ways, such as—

1. The preparation of statistical tables similar to those issued by King Edward's Hospital Fund so as to afford hospitals all over the country the means of comparing their own expenditure with those of other hospitals and thus detecting possible loss and waste.
2. The codification and tabulation of information and statistics at a central office in London, where there would be a reference library in which the latest details could be obtained regarding all matters connected with hospitals, such as planning, construction, heating, and lighting.
3. The Joint Council could utilize the storage accommodation it has in London by inviting gifts of hospital stores from which grants could be made to hospitals in need; non-perishable drugs, dressings, etc., could be stored in bulk. In the purchase of stores (especial requirements of surgery and of the dispensing department) the Council would be in a position to buy on most advantageous terms under expert advice, and facilities would be provided for the analysis of articles of hospital consumption and for the supply of details with regard to prices of hospital commodities.
4. The work parties that did valuable services during the war in providing hospital garments, etc., might, it was hoped, be induced to continue their work for hospitals and child welfare centres.
5. The War and Peace Hospitals Library would be continued for the supply of books and magazines.

The scheme was to be regarded only as an outline of the way in which a central voluntary organization might help voluntary hospitals. If it were accepted, details would be settled in consultation with the representatives of the hospitals. The money grants which could be made to hospitals must depend upon the measure of financial support received from the public by the Joint Council; but even if this were not large it was believed that much money might be saved in the manner indicated above. The scheme aimed at helping, in the first place at all events, the provincial hospitals, in view of the fact that the London hospitals have the benefit of the King Edward's Hospital Fund, the League of Mercy, and the Sunday and Saturday Hospital Funds.

Sir ARTHUR STANLEY (Chairman of the Local Committee and Treasurer of St. Thomas's Hospital) said that he wished to make it clear that the Red Cross was not in any way trying to infringe on the duties or rights which ought to be exercised by the State or the local authorities. Whatever the State did, however, there was always scope for the voluntary agency, and his own conception of the Red Cross was that it should stand to the Ministry of Health in time of peace in the same relationship as it stood to the War Office in time of war. It was not for the Red Cross to say what policy should be pursued by the State, but to bring to the help of the State everything that voluntary effort could supply. He believed it to be the determination of those to whom he spoke that the voluntary system should be continued. If only the machinery of collection was provided, and the public was satisfied that the money was being well spent, funds would certainly be forthcoming. Formerly the hospitals only made application to the well-to-do, but the ordinary patrons had been severely hit by the war, while on the other hand the working classes, who he believed to be as ready to give as anybody else if only the matter was presented in the right way, had to a large extent benefited financially. He proceeded to give some figures which he admitted were purely illustrative. If there were 300 voluntary hospitals in the country, each with an average of 150 beds, the maintenance of each bed requiring £150 a year, the annual cost of the voluntary hospitals would be £6,750,000, and deducting one-third from this sum as covered by endowment, it would be necessary to raise every year between four and five millions. Out of the forty million people in this country, surely one million could be found who would put aside a shilling a week for the hospitals and another two millions who would put aside sixpence. This would yield five millions, and yet only 7 per cent. of the population would have been touched. He could not believe that the raising of this money was an impossible task, but a necessary condition of effective giving was that hospitals should be properly administered, and for this purpose a central bureau for the issue of statistics and other comparative data would be valuable, as it had proved to be in dealing with the auxiliary war hospitals, which at first showed the most extraordinary divergences in expenditure. It had been made possible for Sir Napier Burnett, K.B.E., M.D., who had gathered wide experience in connexion with hospital administration under the Red Cross, to devote his whole time to the furtherance of this scheme, and the promoters hoped much from his direction.

Viscount KNUTSFORD proposed, without making a speech,

> That the thanks of the British Hospitals' Association be conveyed to the Joint Council of the British Red Cross Society and the Order of St. John for its offer of assistance, which is cordially and gratefully accepted by the hospitals represented at this meeting.

After the Rev. G. B. CRONSHAW had seconded, a general discussion took place, and the scheme was very cordially received, especially on account of the fact that the body which had come to the help of the hospitals was not an austere officialized organization, but sympathetic and allied. Questions were asked as to how the general collection for the Red Cross would affect special local efforts on behalf of a particular hospital; and one or two representatives of the London hospitals criticized the omission of London from the present scheme, more especially as the new agency was likely to tap the constituency of the Hospital Saturday Fund, which was one of the great collecting organizations on behalf of the London hospitals. A Bradford representative wished for an assurance that the State or municipality would not take the hospitals over, and said that until this point was cleared up donors would withhold their money. The same point was put forward by Mr. C. E. L. LYLE, M.P., who said that as a result of his interrogation of Dr. Addison he believed that the Government had no intention of nationalizing the hospitals, but it was doubtful whether the Government could prevent a municipality from setting up a hospital. Sir HENRY BURDETT said that it was evident that the Government would not nationalize the hospitals, and, in his opinion, it would not allow them to be municipalized either.

Sir ROBERT MORANT said that the Minister himself had been very anxious to come to that meeting in order to repeat the statement he had already made, that there was no foundation whatever for the rumours that the establishment of the Ministry of Health meant the imposition of bureaucratic control over the voluntary hospitals. No such intention was on the horizon at all. On the contrary, the Ministry was eager to encourage all voluntary effort.

Sir NAPIER BURNETT said that the purpose of the scheme was to supplement, not supplant, the efforts of individual hospitals. The utmost care would be taken not to collide with any local efforts. Before the central organization set to work in any district it would communicate with the authorities of the local hospital to discover whether they wished its assistance. He dwelt upon the value of the scheme as a means of co-ordinating hospital administration, not only in regard to treatment of the sick, but to the provision of research facilities and work on the preventive side of medicine.

Sir JOHN LYNN-THOMAS expressed the opinion that the cost of providing an adequate hospital service for the country would be larger than Sir Arthur Stanley had estimated. The Prince of Wales's Hospital for the Limbless at Cardiff had been established for the treatment of soldiers and sailors, but inquiry in Wales showed that the number of civilians who had lost limbs was large even when compared with the injuries of war. To meet their needs no hospital provision had previously been suggested; provision must be made to restore and reconstruct the limbless for work which war experience proved need not

fall short of the normal wage-earning power. This fact afforded an indication of the extent of the whole problem. During the war properly equipped general and special hospitals were found for soldiers and sailors, irrespective of their rank and pay, the only passport for admission being the need for treatment. Under the stimulus of war conditions the Government willingly agreed that the Army Medical Department should find sufficient hospital beds, but so far no Government department had felt it to be its duty to encourage the provision of adequate hospital accommodation for the sick and injured of peace. In future everyone who needed it should be entitled to hospital treatment.

Sir ARTHUR STANLEY, in reply to a Newcastle representative, who urged that it was too much to expect a subscription of a shilling a week from the working classes, said that his figures were purely hypothetical. It might be better, instead of getting a million people to give a shilling a week, to get twelve million to give a penny, and even then only 30 per cent. of the population would have been touched. The danger of a municipal hospital was remote. Some Government department must have the power to prevent a municipality from borrowing the money for the erection of a municipal hospital when it could be shown that the existing hospital might be supported by voluntary means. The new collecting organization wished to work in harmony with King Edward's Fund; indeed, that Fund was at the moment distributing on behalf of the Red Cross a quarter of a million among the London hospitals. But the principal work of the Red Cross was to render first aid, and he thought that the provinces were more in need of first aid than London; the second branch of its work was home nursing, and perhaps London might come in later in that category.

The resolution was carried unanimously.

DISCUSSION AT BIRMINGHAM.

An interesting discussion on hospital policy took place at a meeting of the medical profession of Birmingham and the West Midlands, called together by Dr. Thomas Wilson, president of the Birmingham Branch of the British Medical Association.

Sir BERTRAND DAWSON spoke of the need for more hospitals, a better classification of them, and a better distribution. In the large changes that would be necessary the aim should be to foster the traditions that existed in the voluntary hospitals. Not only, he said, were the present hospitals inadequate in number, but they were not performing the right functions; they were consequently called upon to do too much work and to do the wrong kind of work. Hospitals in future must be more widely distributed so as to be available for all, and there must be grades of hospitals. A distinction should be made between the "primary" hospital, where the patient would be looked after by the doctor of his choice, and the larger hospital to which he should be sent when the care of a staff of specialists was needed. The primary hospital would create an intellectual atmosphere in the medical life of its district, and around it should be assembled the machinery of health, thus linking up the preventive and curative sides. The great mass of routine cases would be received at the primary hospitals; cases needing special skill and equipment in the central hospitals; while at accessory hospitals—for instance, adapted Poor Law infirmaries—cases could be treated which, though not necessarily of great clinical interest, were of enormous importance from the economic point of view. From the educational point of view the work of these different hospitals should be co-ordinated so as to widen the field for the students. He warmly supported the plan of associating the present Poor Law infirmaries with the hospitals, but it would, he thought, be a pity to attempt a permanent arrangement. How, he asked, was the additional accommodation to be provided? All the evidence suggested that any new hospitals must be maintained by public authority. If the whole cost of curative treatment were provided free this would impose a heavy burden on the State. In the primary hospitals there might be standard rates for public and for private wards. He suggested an elastic rate, taking account not only of what a man received, but also of his responsibilities. In the public ward a standard rate would include medical treatment, because the patient would have passed from the care of his doctor to that of the consultant. In private wards the patients should pay both for their accommodation and for their medical attendance.

Sir GILBERT BARLING, Vice-Chancellor of the University of Birmingham, spoke of the inadequate hospital accommodation in Birmingham, and the parlous financial plight of the hospitals. Frankly, he thought it hopeless to try to provide what was needed for the future by the voluntary system, though he trusted the voluntary principle would be retained side by side with and supplemented by municipal or State aid. He emphasized the need for an exhaustive survey of the hospital accommodation of the country; decentralization should be the keynote of the scheme for the future.

Dr. JOHN ROBERTSON, M.O.H. for the City of Birmingham, remarked that while there was a serious shortage of accommodation in voluntary hospitals, his own authority was swamped with beds for fevers, tuberculosis, and mental diseases. They had three times as many beds as the voluntary hospitals had for the treatment of all other ailments.

Dr. THOMAS WILSON urged the desirability of setting up an authority to correlate the various hospitals of the country with the necessities of the community. All grades of the medical profession should be largely represented on that authority.

Professor J. T. J. MORRISON postulated three factors that would in the main determine the final form of the hospital system in this country: (1) The demand of the people for greater facilities and a far larger volume of hospital service; (2) the refusal of these people to accept charity; (3) the immense political power possessed by that section of the community. He felt hopeful that the vast changes that would be brought about by these factors would turn out to be for the benefit both of the hospitals and of the community.

PROPOSED PUBLIC INQUIRY INTO THE MEDICAL SERVICE OF THE COMMUNITY.

A deputation from the British Federation of Medical and Allied Societies was introduced to the Minister of Health by Sir W. WATSON CHEYNE, M.P., on January 23rd. The object of the deputation was to urge that a public inquiry should be held as to the conditions of service under National Insurance medical benefit, and as to whether these conditions promoted the efficiency of the medical profession, and gave commensurate results to the community.

Dr. ARTHUR LATHAM said that the five years' experience during the war had stirred the public and medical conscience, and had shown what medicine could give to the community. The Regulations made with regard to medical service under the Insurance Act seemed to be designed to catch the erring doctor, but to impair the efficiency of health services. There must be regulations but they should be elastic. None of the lessons of the war had so far been incorporated in the regulations, and, owing to the limitations imposed under the Act, they could not be incorporated. The most effective means to reach a mutual understanding was publicity, and public inquiry was essential if suspicion was to be replaced by willing co-operation. Dr. STANCOMB, in supporting the plea for a public inquiry, spoke of the grave dissatisfaction both among the medical profession and the community.

Dr. ADDISON, in his reply, said that he was grateful for efforts to focus trained medical opinion upon the question how the medical service of the country could be placed in a position most usefully to serve the public. He was anxious to know in what respect the medical profession was tied up or prevented from doing its best, and undertook to find a remedy should this prove to be the case. He asked for help in devising a scheme whereby a strongly individualistic profession could be brought to give their devoted services to the public with goodwill and by common consent. The Government had agreed to inquire into the question of remuneration, and he did not want to oppose a further inquiry. The Medical Consultative Council had been asked to report upon the type of medical service required, and this report, which he hoped to receive within three weeks, would be made public. Further, he had the authority of the Cabinet for saying that it held itself free to institute a wider inquiry if it appeared to be desirable or necessary, either as a result of the findings of the arbitrators with regard to remuneration or of the report of the Consultative Council. If he became convinced that any advantage could be gained by a public inquiry he would not hesitate to recommend it.

A WHOLE-TIME STATE MEDICAL SERVICE.

AT a meeting of the Marylebone Division of the Metropolitan Counties Branch of the British Medical Association on January 16th a discussion took place on the desirability of a whole-time State medical service. The discussion was opened by Professor BENJAMIN MOORE, D.Sc., F.R.S., and Sir WILMOT HERRINGHAM, K.C.M.G.

Dr. C. O. HAWTHORNE, who presided, said that circumstances with which all were familiar had compelled reconsideration of the form in which the medical profession could best discharge its responsibility as the protector and promoter of public health. Some changes in this direction had already taken place, and it needed no very penetrating eye to discern other changes on the horizon. One change proposed by certain members of the profession was that a whole-time State medical service should be established. There was a strong feeling both for and against this proposal; but however much the protagonists on the opposing sides might differ with regard to choice of methods, they were at one in their desire to preserve the best of all professional traditions—that of effective service in the public interest.

Professor BENJAMIN MOORE said that the proposal for a whole-time State salaried service was still resented by a large majority of the profession as being too revolutionary, although he believed that certain prejudices were wearing away and some misapprehensions being dispelled. Frankly, if he thought that a national medical service would be bureaucratically administered from Whitehall, and that medical men would be simply paid servants of a bureaucracy, he would have nothing to do with it. But it was quite evident that certain methods of co-ordination must be introduced into medical practice, and if only the profession was alert and careful he did not think that a lay bureaucracy need be the result. He looked forward to an organization something like the old-fashioned guilds which used to exist in London and in the country; under such a system the management of all professional matters would be in the hands of the profession, its rank and file as well as its leaders. Central co-ordination would be necessary, but it must not override local control; and even local control—that is to say, control by mayor and burgesses—must not be suffered to override the feeling of the profession. It might be asked why any such change was needed. The answer was that medical science, so far as concerned the treatment of certain diseases, had made the domiciliary methods of the past altogether inadequate. The staffs of hospitals were far too slender to meet the existing need. In an out-patient department on any day a few doctors would be found endeavouring to cope with a great number of patients, while perhaps at that very hour there were dozens of practitioners in the neighbourhood seeing no patients at all. He dwelt upon the need in slum tenements and in factories for some more effective system of early diagnosis; if the profession was to deal in a scientific way with disease it must go out and seek disease in its early manifestations. The question of a salaried service as against some other basis of remuneration was quite secondary; the important thing was that the service should be well paid. He did not accept the view of some people with regard to the low range of salaries likely to be paid under a State service.

Sir WILMOT HERRINGHAM said that what had been laid before the meeting was surely the slightest sketch of any proposal ever brought to the notice of a body of men. Professor Moore's contention seemed to be that they were not to see patients when they were ill, but were to go to every house in the country to find out who was likely to be ill, and the only way in which this could be done was by having a salaried service, with salaries of at least £1,000 a year! The case for a whole-time State salaried service needed a little more elaboration and refinement. His own feeling was that the difficulties and disagreeableness contingent upon such a service considerably outweighed its advantages. He had often talked over the matter in France, and had occasionally found a mess inclined to favour the idea, but when he asked how they would like to go on living always under their A.D.M.S., they invariably said that they would like no such thing, and said so with a forcefulness which recalled Uncle Toby's saying that our armies swore terribly in Flanders. He did not think he ever heard a man say that he would deliberately choose to go on living in that state of life to which Government conscription had called him. The sense of discipline under which it was necessary to live was not good for a profession which must be continually feeling its way towards changes and improvements. Public service, however much the people at the top might desire to prevent such a result, did militate against originality and enterprise. He did not believe for a moment that medical men under such a system would be able to obtain the complete control on which Professor Moore insisted. No other body of men in similar circumstances had been allowed to do it when their interests were apart from, and in a sense opposed to, the interests of the public. Bureaucratic control there must always be, let it be tempered as much as they liked. They could no more claim to regulate public affairs than anyone else, except as advisers. Professor Moore seemed to think that payment would be extraordinarily large. How could it be larger than the payment of medical officers in the army and navy? The speaker thought it very important to consider what ought to be done to improve public health. More hospital and maternity accommodation was desirable, also better facilities for consultations, and, if possible, better communication between the doctor who was looking after the case privately and the doctor who treated the case when it came into the hospital. These, however, were not the necessary consequences of a whole-time service.

Dr. R. FIELDING-OULD remarked that from the ranks of general practitioners he did not find any great champions entering the lists for State service; there was a silence on the matter so far as clinical medicine was concerned. Under State service the spiritual and psychical interest between medical man and patient would diminish. One terrible example of State interference with medical practice was the work under the Insurance Acts. He referred to the likelihood of official duties stopping up the springs of freshness and enthusiasm, and declared himself ready to fight the proposal for a State-salaried system tooth and nail.

Sir WATSON-CHEYNE, M.P., said that it was quite impossible to carry out treatment under orders from the Government. He understood, however, that Professor Moore was not proposing that the Government should rule the doctors, but that doctors in the various districts should mass together and rule themselves. The speaker did not believe that the Government or the local authorities would allow that.

Dr. C. A. PARKER said that private practice had not produced all the results that could be desired. He instanced Sir George Newman's statistics with regard to the health of school children and the records of army recruiting; also the huge incidence of tuberculosis and the prevalence of epidemic disease. Some form of public medical service seemed to be the only solution. Half-time work might lead to undesirable differentiation between State and private practice.

Dr. ALEXANDER BLACKHALL-MORISON pointed out that the collaboration of medical men, before legislation was thought of, had effected a great deal for the health of the community. Dr. T. P. BEDDOES held that no whole-time service would be satisfactory, and did not believe that the health of the nation would be increased under such a service. Dr. A. G. AULD thought that special service under the State was necessary in order to find out the beginnings of disease and to rectify the conditions under which disease was produced. Dr. B. F. HARTZHORNE said that it would be hard on senior practitioners under a State service system if, having arrived at a time of life when they might justifiably look for more leisure, they were to be assigned certain tasks and called upon for a definite number of hours' service each day.

Professor MOORE, in reply, said that in his original remarks he had been intentionally sketchy, believing that the general contentions of those who favoured State service were by this time understood. Those who had been working on this problem for seven or eight years had seen many of their dreams already realized. State service was coming by a process of evolution, and if it was desired that bureaucratic control should be avoided, it was time that medical men were alive to the matter. He pointed to the amount of research which had been done in the Indian Medical Service as telling against the view that keenness and enthusiasm in health matters disappeared when medical men were brought into Government employment.

Sir WILMOT HERRINGHAM, in his reply, said that he was filled with admiration for the evident enthusiasm which prompted Professor Moore's advocacy, and with amazement at the absolute want of reason with which the case was argued. Dr. Parker had said that because the profession had not been able to stamp out this, that, or the other disease, therefore a whole-time medical service must be set up. Why should disease be more likely to be stamped out under such a service? To say that because a nation still had a large amount of disease the present system of medical practice was a failure and must be superseded was to his mind a typical instance of the absolute want of reason with which the question was discussed.

British Medical Journal.

SATURDAY, JANUARY 31ST, 1920.

PREVENTIVE MEDICINE: TEACHING AND RESEARCH.

THE public has heard many sermons on the importance of preventive medicine during the last year or two. But it may be surmised that the results have not corresponded to the intentions of the preachers, since the level of current discussion does not seem appreciably higher than before, and some fallacies which we had hoped were dead prove merely to have slept during the war-time shortage of paper. Perhaps the public is not the only culprit. One may aim too high, and also too low. A discourse on methodology, an appeal to general principles, may be a trifle dull. The immortal name of Sydenham does not make all hearts burn; some men do not rise to their feet and cheer wildly when the importance of harmonic analysis to the sanitarian is expounded. But sometimes even practical discourses on the way to save babies or to stamp out venereal diseases, bring up into consciousness the irrelevant names of Mother Seigel or Dr. Collis Browne, and the lecturer's message is lost.

We forbear from the appropriate Horatian tag, and merely remark that Professor F. W. Andrewes deserves universal thanks for the model address he recently delivered to the Abernethian Society of St. Bartholomew's Hospital.[1] Professor Andrewes took as his text the last London Life Table, the precise meaning of which he explained with a lucidity professional statisticians must admire; he pointed out how life capital is squandered, and gave one of the chief reasons why this happens. "Unfortunately preventive medicine makes no such immediate appeal to us as the treatment of existing disease. What a glow of pleasure we feel when by our skill we have saved a life! How justly gratified is the house-physician who wrestles all night with a case of hyperpyrexia, wrapping him in wet sheets and rubbing him with blocks of ice till his temperature comes down! How well does the house-surgeon merit congratulation when he has dealt promptly and successfully with a dangerous haemorrhage! You can't get that sort of satisfaction by preventing a hundred babies from getting measles and whooping-cough; yet the man who could do this would serve the State far better. And so, for lack of this immediate dramatic appeal, preventive medicine gets pushed rather on one side in medical education. We are given a short course of lectures on public health, and get signed up for them by attending as few as we can, and come away with a few ideas about ventilation and water-closets which seem to bear little relation to medical or surgical practice."

It would be hard to characterize the essential weakness of the position more aptly. It is the plain truth that the average medical student does not regard preventive medicine as his business, and receives extremely little encouragement so to regard it from those set in authority over him. Up to a few years ago (and we are not quite sure that things are very different now) it was possible to obtain the most prized of professional degrees and diplomas without having acquired information even about water-closets, while the medical student who knew as much about life tables as he can learn in ten minutes from Professor Andrewes's lecture and yet did not propose to take the D.P.H. would have been thought to have missed his vocation.

This is a state of affairs which no oratory can alter. So long as the ordinary medical student is ignorant of the general principles of preventive medicine, cannot use the simplest intellectual tools of the epidemiologist and vital statistician, and knows nothing of medical history, that which should be the intellectual heritage of the whole profession will remain the possession of the few, will be tainted with the intellectual vices of particularism, and will appear to some a forbidding wilderness of technicalities, to others a more or less beneficent witchcraft, and to yet others a source of tedious oratory.

It is easy to say that we ought to have more lectures and whole-time teachers, but that is not a remedy; the student hears too many lectures, and if talking, or rather being talked at, could make young men wise we should reckon our Simons and Farrs by the hundred. Apart from the dramatic element noted by Professor Andrewes—if it be not an ingredient of the drama—is the greater reality of clinical instruction. The teaching surgeon is not only handling real patients, but he is doing so before the eyes of his students. He not merely tells them that in such and such circumstances such and such things are done; he does those things, not upon wax models or dissecting-room subjects, but upon living flesh and blood. The medical student has no such contact with the realities of preventive medicine and epidemiology. There is, of course, a reason for this. The unit of the clinician is the individual patient, that of the epidemiologist a group of individuals, a collectivity, and he is therefore forced to adopt what, for want of a better word, we may call the statistical point of view. Hence his *milieu* approximates more closely to the chambers of a barrister or the office of an army staff than to the consulting-room of a physician or the operating theatre of a surgeon. But there is no lack of reality in the chambers of a lawyer or at the head quarters of an army staff. Many have commented on the great value of the legal training a pupil in chambers receives. There he sees real business and how it is handled. Between this education and that to be acquired from books and lectures is as wide a distinction as between the knowledge of the professional detective and that of the disciple of Mr. Sherlock Holmes, or between campaigning and sham fights. An ordinarily intelligent youth who had access to the chambers of an epidemiologist, followed the history of the most trivial outbreak of disease, noted the waxing and waning statistics of morbidity and mortality, the action taken, the opinion of the expert—not when the battle had been lost or won, but while its issue was doubtful—would get nearer to the essence of scientific prevention than any number of eloquent and systematic lectures or of personally conducted tours over municipal sewage works would ever carry him.

But these chambers of the epidemiologist, where are they? In the health departments of great municipalities and in Whitehall; regions into which the ordinary medical student never strays. It is in the nature of things, both as they are and as they must be, that such a separation should exist; if the only remedy were to turn the student loose in Whitehall or give him open access to the offices in the City Hall, we should have to despair of his education in preventive medicine. We certainly think that facilities should exist for young graduates to act as voluntary assistants in the great state and municipal health departments, and that such service should confer the same

[1] *St. Bartholomew's Hospital Journal*, January, 1920.

advantages (not merely upon those definitely entering the career of a public health official) as the tenure of hospital house appointments; but this does not meet the needs of the merely average man.

The solution of the difficulty is to be found in further development of the wise and enlightened policy of the Medical Research Committee. It is obvious that the administrative epidemiologist or sanitarian cannot conveniently be located in a medical school or university. There is no reason why the investigator should not be so housed. If in a medical school we have investigation continuously pursued, the investigator being systematically supplied with all the information which is received in the routine course by the administrative departments, we shall reproduce as nearly as is practicable the atmosphere of the barrister's chambers. It is true that one element of reality will be lacking: the investigator will have no responsibility for administration; this, we fear, is inevitable; but if the record of administrative action is faithfully transmitted, if the student can really see from day to day what happens, we do not think the loss overwhelming. It is upon these lines that the teaching of preventive medicine should, we believe, be organized. At present it is sterile and despised because it is unreal, a mere sham fight. We have aimed at a systematic course, and achieved a lifeless formalism. It is not more lectures, not even more "practical" work—in the ordinary sense of the terms—but more humanity, more of the excitement of a battle, that the student needs.

REMOULDING THE HOSPITAL SYSTEM.

DURING the last few months our columns have contained many evidences of a great stirring of opinion, medical and lay, with regard to civil hospitals, and we publish this week (p. 156) reports of the proceedings on three occasions on which the subject was more or less directly discussed.

At the meeting summoned by Dr. Thomas Wilson, President of the Birmingham Branch of the British Medical Association, on January 15th, Sir Gilbert Barling added his testimony to the current view that not only is the financial position of voluntary hospitals very difficult, but that the accommodation they supply is insufficient. In an address to the same meeting Sir Bertrand Dawson, while admitting that great changes would undoubtedly be necessary, affirmed that there were few institutions in which this country could more justly take pride than in the voluntary hospitals; they were animated by an enthusiasm for the best work and a sense of brotherhood which could not be found in any State institution in this country or abroad. He asserted that the proportion of the community needing hospital treatment was steadily increasing, and likely further to increase, and supported this opinion by pointing to the growing complexity of methods of diagnosis and treatment involving an increase in the cost of treatment which an increasing proportion of the population could not meet. He also pointed to the distinct but related fact that many illnesses, including many not very severe, were more efficiently and far more conveniently treated in an institution with proper equipment and nursing than in ordinary domestic surroundings. He then outlined a scheme, with which the readers of his Cavendish Lecture and other addresses will be more or less familiar, for an organization of medical service from the periphery to the centre. In rural and small urban areas he would like to see what he called "primary hospitals," where the patient's own doctor could continue treatment under conditions far more satisfactory than obtain in most private houses, whether those of industrial or middle class families. In this way the preventive and curative sides of medicine would, he hoped, be brought together. From these primary hospitals patients would, when necessary, be referred to the central hospitals with medical schools, and he indicated that these hospitals would require accessory institutions, to which certain classes of cases might be transferred. Such cases would include many of a minor character in a medical or surgical sense, but of great economic importance, and others in which, though the patient's general health may be excellent, prolonged special treatment is required; and here it is of consequence to remember that continuity of treatment is often essential to cure.

In addressing, last October, the inaugural meeting of the Medical Consultative Council, the Minister of Health said that its first reference would be to report on an ideal system of medical and allied services towards the realization of which the Ministry could work. The Chairman of the Council, Sir Bertrand Dawson, in replying to Dr. Addison, said that the activities of the Ministry of Health were bound to extend and to affect all branches of medicine more and more closely, and that if the results were to be satisfactory a good understanding and close co-operation with the medical profession must be maintained throughout. This understanding and co-operation it is the function of the Consultative Council to promote, and success cannot be attained without constant reference to the working of the National Insurance scheme.

The second instance to which we refer is the interview the British Federation of Medical and Allied Societies had with Dr. Addison on January 23rd, to ask him to institute a public inquiry into the conditions of medical benefit and how far those now in force promote efficiency on the part of the medical profession and give commensurate results to the community. Dr. Addison, in his reply, said that he was not in principle opposed to such an inquiry, but he would await the report of the Consultative Council, which he hoped to receive within three weeks, and would then publish, and also the result of the arbitration on the question of remuneration. He added, however, that the Cabinet held itself free to institute a wider inquiry should the result of the findings of the arbitrators (whose names are given in the SUPPLEMENT this week) or the report of the Consultative Council render its institution desirable.

The third incident was the meeting of the British Hospitals Association at St. Thomas's Hospital on January 23rd, when a scheme of the Joint Peace Committee of the British Red Cross Society and the Order of St. John for coming to the assistance of the voluntary hospitals was unfolded. The Council proposes to tabulate hospital statistics so as to afford to each institution the means of comparing its own expenditure with that of other hospitals; it proposes also to help them more directly by accumulating stores, and by purchasing at the lowest price and on expert advice after analysis and examination of the articles sold. Not very much was said about the war experiences of the Joint Committee, but Sir Arthur Stanley in introducing the subject said that Sir Napier Burnett, K.B.E., M.D., who had gained wide experience of the administration of hospitals under the Red Cross, would devote his whole time to the furtherance of the scheme.

The general effect of the scheme and of the meeting at which it was discussed was therefore to institute an organized plan for assisting the finances of the voluntary hospitals both by collecting money and by

helping to make economies. But there is no doubt a not inconsiderable number of persons who are a little disposed to assume that the experiences of the Army Medical Department during the war can be transferred directly to peace. There is undoubtedly a certain analogy, but it must not be pushed too far. Sir John Lynn-Thomas stated the general principle to be deduced from our war experiences when he pointed out that the difference between the conditions then and now was that the country insisted that money should be provided to enable the Army Medical Department to find a sufficient number of hospital beds, to which the only passport was illness or injury. This principle, he contended, ought to be applied to civil conditions, but it is common experience that it is not, for almost every hospital has a long waiting list. We agree, and we feel sure the whole profession agrees, that the cure of existing diseases is as pressing a need as prevention of disease, and that adequate modern hospital accommodation is as necessary as housing, though it does not involve a financial problem so gigantic.

Sir Robert Morant assured the Hospitals Association that there was no foundation for the rumours that the Ministry of Health desired to impose bureaucratic control on the voluntary hospitals, and we would add that over-centralization is also to be avoided. We find some evidence of failure to appreciate the second point in an article published in *The Times* by Mr. Basil E. Mayhew, a chartered accountant, described by our contemporary as an authority on hospital finance. The military medical problem was relatively simple. Mr. Mayhew speaks of the county director as being in daily touch with the "local War Office Command," which acted as a clearing house for all beds in the command, so that the Army Medical Service was able to allocate convoys of wounded to the various hospitals promptly and accurately. The analogy breaks down at once. In civil life there is never a convoy of wounded, except after some extraordinary catastrophe. Again, he speaks with a complacency we do not share of the auxiliary hospitals. The enthusiasm with which they were established and the unremitting labour with which they were conducted were worthy of all praise, but as instruments of an efficient medical service they often, if not usually, left much to be desired. When Mr. Mayhew gets on to his own ground and talks of the need for a uniform system of hospital accounts we believe that he is altogether right, and anything the Joint Peace Committee can do to promote this system and to favour economical purchase and expenditure will be all to the good.

CLINICAL TEACHING "ELEMENTS" AT WORK.

WE are glad to be able to announce that the hospital teaching organization at University College Hospital, the establishment of which was mentioned a few weeks ago, has been in working order since the first day of this year. The Director of the Medical Element is Dr. T. R. Elliott, C.B.E., D.S.O., F.R.S., physician to the hospital. Dr. J. W. McNee, D.S.O., recently assistant to the Regius Professor of Medicine and to the Professor of Pathology at Glasgow, has been appointed first assistant and deputy to the Director. Dr. F. M. R. Walshe has been appointed second assistant to the Director to control neurological teaching and research, and also to take charge of the department of electro-therapeutics and massage at University College Hospital. The Director of the Surgical Element is Mr. C. C. Choyce, C.M.G., C.B.E., F.R.C.S., and he has as his first assistant Mr. E. K. Martin, M.S., F.R.C.S., and as his second assistant Mr. F. J. F. Barrington, M.S., F.R.C.S. The Directors of the Elements are responsible for the general arrangement of systematic teaching on the principles of medicine and surgery in both hospital and school. The instruction of junior students in physical signs and elementary laboratory methods and the systematic demonstrations and lectures for senior students are to be organized by them, although the teaching in these courses is in certain cases given by other members of the staff. Every student is to take duty during his first year for two months' clerking and two months' dressing with the Medical and Surgical Elements respectively. These terms of clerking and dressing are intended to follow as far as possible the four months' term of duty with other members of the staff. Thus every student will in due course pass through both elements. During his course of two months' duty under the Director of the Medical Element the student will be attached for clinical clerking to some of the special departments, such as the Cardiographic Department under Dr. Thomas Lewis, F.R.S. Arrangements have been made at the Medical School by which the Directors of the Elements and their assistants have been furnished with ample accommodation and facilities for research work in the Graham Laboratories of Pathology, endowed by the late Professor Charles Graham, who was so long a member of the staff of the Chemical Deparment of University College. Both the directors and their assistants are on the whole-time basis—that is to say, they are debarred from private practice. This, it is considered, is an important part of the new organization, but it is at the same time realized that the students should receive clinical instruction from teachers who are in close touch with private practice, as has been the case in the past. Such instruction will in future be given by the remaining members of the staff not belonging to either element, who will devote their time more especially to clinical teaching, and will have the more leisure and energy for this, inasmuch as they will be relieved from systematic teaching. Three-fourths of the total approved cost of the elements will be paid from the parliamentary grant, the remainder must be found by the medical school. The entries at the medical schools this year are generally large, and University College Hospital Medical School has shared in this. The hospital is somewhat small for a large scheme of this kind; it now provides 320 beds, but the committee of management has recently acquired a site in the immediate vicinity of the hospital on which it is hoped to erect a nurses' home in the near future, so as to liberate the part of the hospital at present occupied by nurses for the purpose of providing additional beds. The hospital itself stands on an island site, and there will therefore be little temptation to add to the number of beds in Gower Street. The wisdom of the policy of increasing the number of hospital beds in the centre of great towns is more than doubtful. The high cost of a site is a serious financial burden, and many patients would be much better off if transferred, as soon as their condition permitted, to a linked hospital less elaborate in construction and on a site less costly and more health-giving, outside the town.

THE ACADÉMIE DE MÉDECINE.

THE Académie de Médecine, which meets in Paris but has associates and correspondents throughout France and all civilized countries, is about to celebrate its centenary. It was founded by royal decree on December 20th, 1820, and to-day under the third Republic is in the full vigour of maturity. During its hundred years it has numbered among its officers such great leaders of medicine in France as Laënnec, Pinel, Dupuytren, Magendie, Trousseau, Cruveilhier, Claude Bernard, Pasteur. In this, its centenary year, it has chosen as its President M. Laveran, the discoverer of the malarial parasite, and

the first name on the list of its foreign Associates is Sir Patrick Manson, elected in 1900, and among its foreign correspondents is Sir Ronald Ross, elected in 1904. It is curious to look back to the time before these men began their work on malaria, to recall the slim octavo in which Laveran, then a French army surgeon in Algiers, described and figured the haematozoa—description and figures received with indifference worse than incredulity—the well reasoned hypothesis of Manson, and the brilliant demonstration given by Ross. The Académie de Médecine holds a position unique among the medical societies of the world. To it sooner or later, and usually quite early, comes all the best work done in clinical and experimental medicine in France. But it concerns itself also with the practical application of scientific principles to the prevention of disease, and reports directly to the Minister of the Interior, by whom it is frequently consulted. It combines the functions of the Medical Consultative Council of the Ministry of Health and the Royal Society of Medicine with some of those of the British Medical Association. Its influence with the public, the medical profession, and the Government of France is great, and always wisely exercised.

INTRACAROTID SALVARSAN INJECTIONS.

OWING to the extreme toxicity of arsenic and its compounds to nervous tissue, it has not been feasible to inject salvarsan into the subdural space in the treatment of cerebral lues and the parasyphilitic affections. Horsley's practice of applying mercuric lotions to the cortex directly through a trephine hole will be recalled, as will also the method of Swift and Ellis, who introduced salvarsanized serum into the spinal theca. Later, Levaditi, and Marie and de Martel, put similar serum beneath the dura, whilst Hammond injected it into the lateral ventricles. Knauer, believing that a more efficient method would be to introduce the salvarsan directly into the cerebral blood stream, has devised a way of doing this. Animal experimentation proved that a needle could be pushed through the wall of the great arterial trunks of the neck without a leak occurring when the needle was withdrawn. This he attributes to the thick muscular coat the vessel possesses. Emboldened by these trials, he first applied the method to man by injecting neo-salvarsan into the internal carotid exposed at operation. The obvious disadvantage of having to wait some fourteen days, for the healing of the wound in the neck, before the next injection could be made caused him, with Enderlen's assistance, to try direct subcutaneous puncture of the common carotid. The puncture was made at the level of the thyroid cartilage at the anterior border of the sterno-mastoid. He used a Record syringe, and says that the operator can tell when the point of the needle reaches the vessel by the resistance which its wall offers. On pushing the needle still further bright red blood spurts out; the syringe barrel is then fitted on and the injection slowly made. Knauer has made upwards of sixty carotid injections in this manner on eight different patients without a single mishap or untoward incident. By both methods—that is, by incision and puncture and by direct subcutaneous puncture—he has made 128 injections. One patient has had 22 injections, and no sign of aneurysm has developed. The drug used has been, in the main, neo-salvarsan, though latterly he has made a trial of a new drug which he calls "silber-salvarsannatrium," devised by Kolle of Frankfurt. With this compound he has treated five patients; the dose used was 0.1 gram. His impression is that the new compound is less toxic to nerve tissue than salvarsan. His interesting paper concludes with two tables giving the Wassermann, Nonne, and Pándy reactions before and after treatment. These show that it is easier to get the blood negative than the cerebro-spinal fluid, which often gives a strongly positive Wassermann reaction when the blood is clear.

[1] *Muench. med. Woch.*, June, 1919.

THE EXPERIMENTAL PRODUCTION OF PULMONARY TUBERCULOSIS.

IN the experimental study of pulmonary tuberculosis it is extremely interesting to have a means whereby the lesions in the animals may be confined to the lungs. Bossan[1] states that this can be effected by a method he has used for over two years. A certain quantity of living tubercle bacilli are emulsified in a cubic centimetre of some oil, preferably olive oil, and injected into the marginal vein of the ear. The oil, which circulates very slowly in the pulmonary capillaries, parts with its bacilli there. There is, in fact, filtration. Of more than 200 rabbits so infected none has shown, at any stage of the disease, the slightest lesion in any of the other viscera. In a large number that died of caseous pneumonia affecting both lungs and presenting enormous cavities the liver and spleen were quite normal. The method is important, for it allows us to follow the evolution of a purely pulmonary tuberculosis unaccompanied, as has hitherto been the rule, by visceral tuberculosis. Knowing thus the exact date of infection, we can follow step by step the modifications of the tissues produced by the bacterial invasion, and by knowing the age of the lesions we can determine the activity of the process, the degree of virulence, and the quantity of germs injected. By varying the quantities of organisms injected, or the strains of tubercle bacilli, it will be possible to study the various modifications of lung infection, the length of incubation, and other problems hitherto impossible of precise solution.

THE ORIGIN OF GASTRIC PAIN.

THE difficulties in the way of determining the exact cause of stomach pain are great. It is not due to excess of hydrochloric acid, nor to a diseased condition of the mucous membrane in gastritis. Even the presence of an ulcer is not invariably accompanied by pain. Müller (*Muench. med. Woch.*, May, 1919) believes that pain coming on some time after the taking of food is caused by unusually strong contractions of the *pars pylorica*. The presence of an ulcer in this portion of the stomach determines painful contractions because motor nerve fibres of the mesenteric plexus are exposed in the base of the ulcer. Pain coming on before food, as in "hunger pain," is explained as due to abnormally strong contractions. In carcinoma pain is experienced when the growth has spread so as to cause partial obstruction, and thus increase the tension of the gastric contents. Besides the pain due to tension and abnormal contractions, there is also the peritoneal pain of an ulcer involving the abdominal parietes. Attention is directed to pain in the back in gastric cases, which Müller holds indicates the presence of a penetrating ulcer on the posterior surface of the stomach in which spinal nerve fibres are laid bare. *X* rays are of great assistance in the diagnosis of such an ulcer, and it has been found that when deep pressure is applied during screening, the point of greater sensitiveness corresponds with the site of the ulcer. On the other hand, even when marked gastroptosis is present, the patient suffering from gastric ulcer invariably refers the site of the pain to the epigastrium. A third source of stomach pain is that described by Head and Mackenzie, a viscero-sensory reflex, entailing hyperaesthesia of the correlated skin segment, which may be acutely sensitive. A discussion of the path of this reflex is illustrated by two good diagrams indicating that painful sensations from the stomach pass along the splanchnic nerve to sympathetic ganglia, and thence by way of the grey rami communicantes to the spinal nerves. Although Dogiel has discovered cells of a sympathetic character in spinal ganglia, the evidence tends to support the opinion that the arc is only completed within the cord itself. Müller insists that it is essential in the treatment of gastric pain to make a clear diagnosis of the origin of the pain; whether due to

[1] *Comptes rendus de la Société de Biologie*, January 10th, 1920.

abnormal contractions, to peritoneal involvement, unusual hyperaesthesia of the skin area corresponding to the diseased organ, or to a combination of these.

CAMBRIDGE NATURAL SCIENCE CLUB.

THE Cambridge Natural Science Club, founded in 1872, celebrated its 1,000th meeting by a dinner in the combination room of St. John's College, Cambridge, on Saturday, January 24th. The President, Mr. J. M. Wordie, was in the chair. There were eighty-three members and guests, and the occasion was taken to bring out a complete list of the members of the club since its inauguration. This shows that of the 330 members 52 are dead, 10 having been killed or died on active service during the war, and that 55, or 16.7 per cent., had received the blue ribbon of science—the F.R.S. Indeed, in returning thanks for the guests, Sir J. J. Thomson, who, although President of the Royal Society and Master of Trinity, had never been a member of the club, thought that the proportion of Fellowships of the Royal Society was probably higher among members of the club than among Fellows of colleges elected on account of their attainments in natural science. He confessed that he had never taken the Natural Sciences Tripos, though he had often examined others for it, and pleaded in defence that, like Professor W. H. Bragg, also a guest, he had made some vicarious amends by submitting a son to the ordeal. It may be noted that Professor W. H. Bragg and his son divided the Nobel Prize in 1915 for work on *x* rays. "The Club" was proposed by Dr. J. G. Adami, the recently appointed Vice-Chancellor of the University of Liverpool, who insisted on the educational value of the club, which, as a past professor, he seemed to rate higher than that of lectures; that ideas thus struck out in a discussion were often of great value was accepted as true by Professor Marr, who, as one of the senior honorary members, replied to the toast in an amusing speech. On the cover of the menu there was an attractive reproduction of Kneller's portrait of Sir Isaac Newton, painted in 1689, two years after the publication of the *Principia*, and apparently the only authentic portrait done in his prime. The original portrait is in the collection of the Earl of Portsmouth, but the reproduction was a photograph of the Trinity College engraving executed about 1866 by Oldham Barlow.

THE UNITED STATES ARMY MEDICAL MUSEUM.

THE Army Medical Museum at Washington, D.C., was founded in 1862, and at first consisted very largely of material collected from the Civil War; subsequently it received specimens from civil practitioners as well as from army surgeons in the tropics and at home, so that at the outbreak of the European war it contained approximately 48,000 specimens and photographs. A recent report by the curator, Colonel C. F. Craig,[1] states that a museum unit for service with the American Expeditionary Force in Europe was organized in 1918 and placed in charge of Colonel L. B. Wilson, the Assistant Director, Division of Laboratories, A.E.F. The number of museum specimens has more than doubled since the outbreak of war; 18,000 specimens have been received in the pathological department alone, illustrating especially the morbid changes in streptococcus and influenzal pneumonia, gas gangrene, and the effects of poisonous gases. The material, in fact, is so greatly in excess of the actual needs of the museum that arrangements are being made for distribution to medical institutions for educational and research purposes. Some months after the declaration of war a department of moving pictures was established as part of the instruction laboratory, so as to illustrate methods of treating disease and wounds, sanitary procedures, and other activities of the medical department. There are also departments of still photography to which 10,000 additions were made during the war, of wax modelling, and of entomology, which has been of the greatest service to the Division of Sanitation of the Surgeon-General's office in showing the prevalence of disease-bearing mosquitos in certain districts and their relation to the existing diseases.

[1] *The Military Surgeon*, Washington, D.C., 1919, xlv, 679–687.

INFLUENZA.

JUDGING from the statistics of influenza in the ninety-six great towns during the thirteen weeks ending January 17th there has been no distinct increase in the number of deaths. The highest in any one week was 81—in the week ending December 13th. In the week ending January 17th the number was 62. An increase in the number of notifications of pneumonia is, however, to be observed. The Ministry of Health has thought it well to issue to the press a paper of advice on prevention and treatment founded on the memorandum issued last month, and noticed in our columns of January 3rd. The Ministry expresses the opinion that in view of the almost simultaneous increase of influenza in great American cities, in Europe (Poland), and in the Far East (Japan), there is a considerable probability of another wave of influenza developing in this country at an early date. As to the factors that may produce the new wave nothing more can be said than that it may be due to direct introduction by infected persons arriving from abroad or to the development into an epidemic of the endemic influenza usually present. The Ministry is making special inquiry in selected districts into such questions as immunity, the effects of overcrowding, and age incidence.

PROFESSOR THOMAS SWALE VINCENT, who has held the chair of physiology and biochemistry in the University of Manitoba since 1904, has been appointed to the University chair of physiology tenable at the Middlesex Hospital Medical School. He was a Birmingham student, and was at one time demonstrator of physiology in that university. Afterwards he was Sharpey scholar and assistant professor of physiology at University College, London. Dr. H. E. Roaf, lecturer on physiology at St. Mary's Hospital Medical School since 1911, has been appointed to the University chair of physiology tenable at the London Hospital Medical College. He is a graduate of the University of Toronto; he held a Johnston Colonial Fellowship in the University of Liverpool, where he became assistant lecturer and senior demonstrator of physiology and histology, and lecturer on chemical physiology.

VITAL STATISTICS FOR ENGLAND AND WALES, 1919.

WE are indebted to the Registrar-General for the following statement showing the birth rates and death rates and the rates of infantile mortality in England and Wales and in certain parts of the country during 1919.

ENGLAND AND WALES.

Birth Rate, Death Rate, and Infant Mortality during the Year 1919 (Provisional Figures).

	Birth Rate per 1,000 Total Population.	Civilian Death Rate per 1,000 Civilian Population (Crude Rate).	Deaths Under One Year per 1,000 Births.
England and Wales*	18.5	?	89
96 great towns, including London (populations exceeding 50,000 at the Census of 1911)	19.1	13.9	93
148 smaller towns (populations from 20,000 to 50,000 at the Census of 1911)	18.4	12.7	90
London	18.6	13.6	85

*The civilian death rate for England and Wales cannot be stated at present, the number of non-civilian deaths in the fourth quarter of 1919 not being available.

PUBLIC HEALTH IN 1918–19.

ON the occasion of the issue of the forty-eighth and last medical report of the Local Government Board[1] we were able to publish, in our issue of January 10th, an article on the early history of the medical department of the Board. Sir George Newman's introduction to the Report, in which he discusses briefly the circumstances that led to the establishment of the Board in 1871, may therefore be read to best advantage in the light of the consecutive story told on p. 56 of our present volume. The medical report now issued is, as Sir George Newman says, the last of a famous series dating from 1856 (when Sir John Simon first reported to the old General Board of Health), and marks the close of an epoch of public health administration. More than half a century ago Simon advocated the formation of a Ministry of Health; last summer, fifteen years after his death, the Ministry of Health was created, taking over *inter alia* the medical activities of the Local Government Board. The Report has been prepared by Dr. G. S. Buchanan, Dr. R. J. Reece, and their colleagues, all of whom have become medical officers of the new Ministry, and the preliminary general survey is signed by Dr. Buchanan.

Influenza: Cerebro-spinal Fever.

As might be expected, great attention has been devoted to the influenza pandemic of 1918–19, which (it may be noted) first manifested itself not in Spain but in Asia and America, and which attained such magnitude as to cause, for example, 100,000 deaths in England in 1918. A separate and fuller report is being prepared by the Ministry of Health, but the present Report shows the complexity of the problems involved and the great difficulties lying in the way of their investigation. Epidemiological inquiries appeared to show in some localities that one attack confers a considerable degree of immunity; in other areas the incidence of the disease was the same in those who had and in those who had not suffered attacks during the previous wave. It is suggested that these conflicting observations are explained by the existence of several strains of the influenza virus, varying in virulence and antigenic potency. Investigations made in London, Wales, and Lancashire showed that industrial workers exposed to sulphur-dioxide fumes enjoyed a relative immunity. Conferences between the Board's inspectors and local authorities were held in eighty-six areas, and it became evident at an early date that attempts to control an epidemic by school closure and regulation of places of public entertainment were useless. "The most hopeful course lay in organizing public assistance and treatment, rather than in prevention." Judgement is withheld concerning the etiological parts played by Pfeiffer's bacillus, the various cocci, and a filter-passing virus.

Much more definite are the conclusions gained from the study of 2,000 cases of cerebro-spinal fever occurring among civilians in 1917–18. Careful investigations showed that the majority of cases could be traced to association with soldiers (or with "contacts" of soldiers) who were carriers. Bacteriological examination of contacts was made in 40 per cent. of the cases. The prevention of the disease, apart from the removal of insanitary conditions of housing and overcrowding, is shown to depend on the detection and treatment of those among the contacts who harbour the meningococcus in their nasopharynges. With the disbanding of naval and military communities a great diminution of the disease is anticipated among the civil population. A brief account of encephalitis lethargica distinguishes it by pathological and epidemiological criteria from acute poliomyelitis. Interesting case-groups from various regions of the country are adduced to show that although the disease as a rule occurs sporadically, there may be multiple cases under one roof, and one outbreak (still under investigation) is briefly recorded, wherein twelve cases with five deaths occurred among the twenty-one inmates of a home for girls. This evidence strongly supports the view that encephalitis is due to an organism which may be conveyed by subjects presenting no clinical manifestations of its presence. An analogy is traced with acute poliomyelitis, which was at first thought to be a sporadic disease, and the report emphasizes the possibility that an epidemic of encephalitis may occur.

Malaria: Dysentery: Rabies.

The question of the possible spread of malaria has received very close attention, and notification was made compulsory in March, 1919. Nearly all the cases have occurred in ex-service men, who are so carefully followed up by the army authorities and by those of the Ministries of Pensions and of National Service that no exceptional precautionary measures are thought to be called for. When, however, two or more cases are *contracted* within any one sanitary area, the local authorities may now be required to provide for systematic inspection, for distribution of mosquito netting, and for collection of blood films and supervision of quinine treatment by a qualified medical practitioner. Indigenous cases have been happily few in number, and, save for certain regions in Kent, wherein the endemic type of malaria formerly prevailed, have occurred in widely separated areas. Similar attention has been given to the prevention of infection of the civil population by returning soldiers in the cases of typhus and trench fever, now known to be louse-borne. The thorough cleansing and bathing of men prior to their return on leave or discharge, together with the systematic issue of clean clothing, has prevented any increase in lousiness of the population, and infection of a civilian by a soldier with a louse-borne disease seems practically never to have occurred.

With regard to dysentery, the attitude is one of watchfulness. No further outbreaks of bacillary dysentery, such as occurred in the autumn of 1918 (with 9 fatal cases out of 39 at Kingston), are reported. The notifications during the first half of 1919 were 700, of which 500 were relapses in demobilized men. The remainder were mostly asylum cases, and it was such cases which afforded the only instances of acute bacillary dysentery. Hospital isolation and other preventive measures may be enforced, according to the Public Health Regulations, 1919, in infected institutions and households.

The report contains a brief account of the rabies cases which appeared first in Plymouth in September, 1918, and subsequently in Wales, Surrey, and Manchester. At first those bitten were taken over to Paris; at a later date (as recorded in these columns) treatment centres were opened locally, and in view of the probable extension which was anticipated, the preparation of the antirabic vaccine was finally begun at the Board's laboratories in Carlisle Place. Up to June 30th, 1919, 109 patients had been bitten, including 23 by untraced dogs; 69 patients received treatment—21 in Paris, the remainder in England. All patients who were treated recovered, and in only one case was treatment refused when the dog which had caused the bite had been proved to be rabid.

Tuberculosis.

The section dealing with tuberculosis can scarcely be said to afford encouraging reading. Deaths from pulmonary tuberculosis have steadily increased during the last six years, and in 1918 amounted to nine thousand more than in 1913. This increase is greater among women; this is attributed to their more extensive employment (of late) in the industrial occupations, with the associated conditions of long working hours, increased mental strain, and overcrowded lodging accommodation. All the organizations dealing with the treatment of tuberculosis—sanitary authorities, sanatoriums, dispensaries, home-visitors and after-care workers alike—were constrained, owing to the war, to work with depleted staffs; at the same time "an all-round shortage of sanatorium accommodation" was caused by the embargo upon building operations, by the conversion of certain sanatoriums into auxiliary hospitals, and by the demand for the immediate admission of ex-service men to sanatoriums, where "their pension and treatment allowances rendered it possible for them to remain longer than had been practicable for civilian cases." The need for accommodation for cases of surgical tuberculosis, especially in adults, was very great "and is still urgent." The Board pressed the local authorities, with some degree of success, to increase the accommodation for sanatorium treatment wherever possible, both by freeing buildings which had been diverted to other purposes, and by addition of pavilions to existing institutions. In view of the greatly increased cost

[1] Forty-eighth Annual Report of the Local Government Board, 1918–19. Supplement containing the Report of the Medical Department for 1918–19. London: H.M. Stationery Office, or to be purchased through any bookseller. Price 1s. 3d. net.

of construction, equipment, and administration, there seems to be little immediate prospect of the building of new sanatoriums upon anything like an extensive scale.

Much stress is laid upon the importance of the provision of training colonies and village settlements—the former to provide sanatorium treatment on a simplified scale, and to serve as a half-way house between sanatorium life and productive occupation. Certain colonies, it is suggested, may be given over partially to cases which are not likely to recover, but who still retain a greater or less capacity for working and earning. Allusion is made to the economic difficulties lying in the way of the prolongation of treatment for patients who are not pensioned or who have dependents. Those acquainted with the inner working of sanatoriums will read without surprise the reference to disciplinary difficulties—"Investigations of complaints took up a considerable part of the time of the (Board's) medical staff during the year."

Maternity and Child Welfare.

Turning to the section dealing with maternity and child welfare, we find the grave statement that in the last quarter of 1918 there was for the first time since the establishment of civil registration an excess of deaths over births of 79,443, causing an actual decrease in the population to that extent, and this in spite of the favourable circumstance that no rise in infant mortality resulted during 1918 as a consequence of war conditions and the influenza epidemic. Much work was done by the Board in many directions in connexion with maternity and child welfare problems. The exertions of the Board in stimulating the local authorities appear to have led to a general improvement in the matter of prompt notification of births. An unfortunate feature of the Act of 1915 was that no necessity is imposed of embodying in the notification a statement of living or stillbirth; it follows that stillbirths can only be estimated by inference and inquiry—that is, by enforcing strictly the Act, and by the organization of very prompt home visits by a health worker.

Antenatal treatment suffered greatly, as might be expected, from the scarcity of medical practitioners during the war; but it is claimed that an immense saving of life and health was secured by the conjoined action of the Food Controller and the Local Government Board in providing during 1918 for the supply of fresh and dried milk and of extra meat and butter for expectant mothers. Similar provision was made of milk for infants and of sugar for artificially-fed babies attending at infant welfare centres. Gratifying results appear to have ensued from the Act of 1918. We learn that there only remain sixty-eight districts, representing 1.75 per cent. of the population of England and Wales, which have taken no action in the matter of maternity and child welfare. The health visitors have increased during the year from 2,555 to 3,038 and the number of centres from 1,278 to 1,365. Many additional crèches and day nurseries have been provided or are in course of preparation.

A great deal of attention is devoted in the Report to matters bearing directly or indirectly upon the actual accouchements. The provision of midwives both in urban and rural districts was aided by grants from the Board, and the Midwives Act of 1918 has enabled the local authorities, working in conjunction with the county nursing associations, both to provide midwives and to assist in their training. It is curious to note that of the certificated women on the Midwives' Roll one fifth only are in actual practice as midwives; but 845 candidates out of 1,548 successful at the last examination declared their intention to practise as midwives—including 471 proposing to settle in rural districts. The Board has also authorized grants for the "home helps" so necessary in the working-class household at the time of confinements. Emphasis is justly laid upon the necessity for the provision of maternity beds in homes and hospitals for the very large numbers of women, married and single, who cannot find suitable accommodation in their homes or lodgings. This urgent requirement "is one the need for which has been very slowly comprehended both by the local authorities and voluntary associations." In certain conditions the utilization of a ward—named the "district maternity-home"—in union infirmaries has been authorized. A substantial development of dental facilities for expectant and nursing mothers and for children below school age is recorded.

Small-pox.

The venereal disease section gives the courses of treatment in vogue at various centres, together with that suggested by Colonel L. W. Harrison; the small-pox report records one case a week, drawn from as many as fifty areas, up to June, 1919; and in the section dealing with Port Sanitary Administration, we find an interesting account of the energetic and successful measures taken when a refugee ship arrived at very short notice from Russia, having on board 1,700 refugees with sixty cases of small-pox and other infectious disease. Considerations of space forbid more than a passing reference to these sections, but attention may be directed to two somewhat disquieting matters of which the Report treats. Sir George Newman refers specially in his introduction to the circumstance that the percentage of children successfully vaccinated in 1917 was only 43.3, and the percentage exempted was 37.9. Owing to numerous revaccinations consequent upon war conditions, the adult population is better protected against small-pox than was previously the case, but only about half the children under 10 years of age have been vaccinated. The possibility of the rapid spread of an epidemic among the infants of this age (in whom the heaviest mortality is known to occur) has thus to be faced.

Meat Inspection.

The other matter calling for serious reflection is the report on the inspection of home-killed meat. When in the early part of 1918 the regulations of the Ministry of Food came into action, the attention of the Board's inspectors was actively directed to the public and private slaughterhouses; and the provision according to which Grade IV carcasses had to be killed in special "Government authorized slaughterhouses" led to close supervision by the local medical officers of health. Three points emerged very clearly as a result of these and other observations. First, that existing inspection arrangements are ludicrously inadequate—for example, in some districts inspectors' visits took place as infrequently as twice a year, being made chiefly "to see that the by-law requirement of limewashing was carried out." Secondly, that the sanitary conditions in large numbers of private slaughterhouses are unsatisfactory. Thirdly, the great increase in the amount of food condemned in the "Government authorized slaughterhouses" compared with that condemned previous to their establishment, leads to the pertinent inquiry, "What became of this class of meat in normal times?" The Report states that before the institution of control a large and lucrative trade was conducted in numerous areas, whereby diseased animals were bought surreptitiously, slaughtered in unauthorized and uninspected places, dressed *secundum artem* and sold in the ordinary way for domestic consumption or to sausage and pie factories. When one remembers that the criteria of the unfitness of a carcass lie almost entirely in the viscera, and that inspection of dressed meat is generally quite useless, the importance of these disclosures will be realized. The gist of the Board's recommendations, which deserve careful study, is to be found in the following paragraph (p. 142):

> There is only one method of ensuring the freedom of meat from disease, and that is by careful examination of the carcase at the time of slaughter, when all viscera are available for inspection. The only practicable means whereby this can be brought about is by requiring all animals intended for food purposes to be brought to a public abattoir, and by providing skilled inspectors in sufficient numbers to inspect thoroughly both before and after slaughter every animal brought there. This would result in the closure of all private slaughterhouses as such, and, in order to be of practical advantage to public health, the requirements would need to operate in town and country alike. Their application to urban areas alone would not be sufficient, as this would merely accentuate past evils by driving the trade in diseased animals exclusively into rural areas where there is no inspection at all.

THE late Mr. Arthur Hill of Eaton Square bequeathed £1,000 to St. Bartholomew's Hospital and £500 to the Great Northern Central Hospital.

THE thirtieth annual report of the New York State Hospital Commission contains a vast amount of statistical and other information bearing on the management of the State's asylums for the insane, which dealt with nearly 40,000 patients in the year 1917-1918.

England and Wales.

LIVERPOOL MEDICAL INSTITUTION.

AT the annual meeting of the Liverpool Medical Institution on January 22nd the following were elected officers and members of council: Dr. John E. Gemmell, President; Drs. R. W. Mackenna and J. Ernest Nevins, Vice-Presidents; Dr. John Owen, secretary of ordinary meetings; Mr. Robert E. Kelly, secretary of pathological meetings; Mr. George C. E. Simpson, librarian; and six members of council—Drs. and Messrs. Robert Craig Dun, Vera Foley, J. Leggate, J. Hepworth Shaw, Richard Stopford-Taylor, and W. Thelwall Thomas. A recommendation of the council to raise the subscription from two guineas to two guineas and a half for a member resident within a radius of eight miles of the Liverpool Medical Institution was referred to the new council for consideration, and a committee was appointed to initiate a systematic effort toward increase of membership.

VENEREAL PROPHYLAXIS.

The London County Council, at its meeting on January 27th, received a report of its Public Health Committee advising that the methods of prophylaxis against venereal diseases commonly spoken of as the "packet" system should not be provided by the Council. The report stated that recent and extended information obtained with regard to the results of preventive treatment did not warrant the Council in differing from the conclusion of the Inter-departmental Committee, which reported to the Ministry of Health last August that the evidence in favour of the packet system was insufficient. The Public Health Committee did not consider that authoritative teaching on the subject of immediate self-disinfection should be provided by local authorities, nor that the means, together with approved instructions, should be readily accessible to the public. The Council's scheme for the diagnosis and treatment of venereal diseases in London fulfilled the Inter-departmental Committee's recommendation, that energy should not be dissipated on measures of doubtful value, but concentrated rather on wise propaganda and the provision of early, prompt, and skilled treatment. The report was adopted.

MEDICAL DINNER AT CARMARTHEN.

A large number of medical men of the South-West Wales Division of the British Medical Association who had served in the war were entertained by some members of the Division at a luncheon held at the Boar's Head Hotel, Carmarthen, on January 16th. Dr. Owen Williams, Burry Port, President of the South Wales and Monmouthshire Branch, presided; he was supported by Dr. Alfred Cox, Medical Secretary of the Association, and a representative gathering of the members of the profession. After the usual loyal toasts were proposed by the Chairman, "Our Guests" was proposed by Dr. D. L. Williams, Ferryside. Dr. Williams referred to the sacrifices made by the men who had joined, and the debt of gratitude owed to them. The toast was responded to by Dr. Roland Thomas in a most interesting, humorous, and racy speech; and by Dr. E. Evans, Llanelly, and Dr. J. Francis. The toast of the British Medical Association was proposed by Dr. R. Hopkin, Llangadock, who referred to the great work of the Association on behalf of the profession and to the great increase in membership which had lately taken place. Dr. Cox, who was received with musical honours, said it gave him very great pleasure to go to Carmarthen to meet the members of the Association. He was especially glad as it was the occasion of recognizing the services rendered by the men of the profession who had helped to win the war, and also to meet his old friend Dr. D. R. Price, whose services were to be recognized that afternoon. Dr. Cox referred to the work of the Association, and said it was the duty of every member of the profession to join the Association; it was very unfair that those men who were not members should benefit by the work of the Association. A presentation of plate was then made by Dr. Brigstocke, Haverfordwest, on behalf of a number of members, to Dr. D. R. Price, Ammanford, who was honorary secretary of the Division for a number of years and has lately resigned on account of ill health. Dr. Brigstocke referred to the untiring energy and tact displayed by Dr. Price, and hoped he would soon be restored to his former condition of health. Dr. D. J. Williams, Llanelly, supported. Dr. Price returned thanks, and said that the work of the Association had been a very great pleasure to him.

LUNCHEON TO SIR HENRY GAUVAIN.

A complimentary luncheon was given at the Trocadero Restaurant, London, on January 23rd, to Sir Henry J. Gauvain, M.D., M.Ch., Medical Superintendent of the Lord Mayor Treloar Cripples' Hospital and College, in order to mark the knighthood conferred upon him at the New Year. The chair was taken by Sir William Treloar, and among the large number present were Viscount Burnham, Lord Downham (Chairman of the London County Council), the President of the Royal College of Physicians, the President of the London Chamber of Commerce, the Treasurer of St. Thomas's Hospital, Sir Watson Cheyne, Bt., M.P., Sir Francis Champneys, Bt., Sir Cuthbert Wallace, Sir Gordon Watson, Sir Forrest Fulton, K.C., and Sir John MacAlister. The Chairman, in proposing the health of their guest, conveyed the congratulations and good wishes of all present, and of many others who were not there. He spoke of Sir Henry Gauvain's ability, enthusiasm, and devotion to duty; during thirteen years of happy work together for the children at Alton he had learnt the worth of the man they were delighted to honour that day. Brief speeches of appreciation and congratulation were made by Lord Burnham, as one of the trustees, and by Mr. John H. Morgan, C.V.O., on behalf of the honorary medical board, and the toast was received with musical honours. Sir Henry Gauvain modestly expressed his gratitude to Sir William Treloar, to the honorary medical board, and to the staff at Alton and at Hayling Island, where the seaside branch has been established. He had seen the institution grow from one of 20 beds to one of 350, and now looked forward to further expansion. Sir Norman Moore, Bt., P.R.C.P., proposing prosperity to the Alton Cripples' Hospital, spoke of Sir Henry Gauvain's admirable work on surgical tuberculosis, and described him as the direct descendant of Dr. Christopher Bennet, who in the seventeenth century was the true founder of the study of tuberculosis in England. Great, however, as the advance had been since those days, it must be remembered that we were still only at the beginning of knowledge of that disease, and much remained to be done. The toast was replied to by Sir William H. Dunn, Bt., treasurer of the institution, and a vote of thanks to the chairman was proposed by Lord Downham. The menu card was enlivened with a sketch by Mr. G. L. Stampa showing the founder and the medical superintendent amidst a group of happy cheering little patients.

Scotland.

SCOTTISH POOR LAW MEDICAL OFFICERS' ASSOCIATION.

THE annual report of the Scottish Poor Law Medical Officers' Association recalls that, in reply to a question in the House of Commons by Mr. Mackinder, M.P., the Secretary for Scotland agreed to consider the advisability of appointing a committee on superannuation for employees of local authorities. A memorial in favour of this course was presented to each Scottish Member of Parliament, a circular was sent to each Poor Law medical officer, the assistance of the British Medical Association was enlisted, and an appeal was made to the Scottish Board of Health asking that two or three members of the Scottish Poor Law Medical Officers' Association should be called to give evidence. At the invitation of the Scottish Board of Health, Dr. William Bryce of Glasgow and Dr. W. L. Muir, Secretary and Treasurer of the Scottish Poor Law Medical Officers' Association, were nominated to serve on the Medical Consultative Council in Scotland. The number of appointments advertised during the year was small and the terms in all cases satisfactory. In one instance a member was advised in regard to the replies he should make to the charges made by a parish council with regard to neglect of duty; the charges were not substantiated. The annual subscription of 5s. should be sent to Dr. W. L. Muir, 1, Seton Terrace, Glasgow, E.

SIR JAMES SIMPSON'S DAUGHTER.

The death of Miss Evelyn Blantyre Simpson severs the last link with Sir James Simpson. She was born in 1856 and was his last surviving child; with her died many memories of that pioneer of general anaesthesia. She, like her brother, was a friend of Robert Louis Stevenson, about whom she wrote two books. With Dr. Berry Hart she wrote the life of her father for the *Dictionary of National Biography*. Her best book was *Dogs of Other Days*. She was a well known personality in Edinburgh, epigrammatic in speech, but a general favourite.

Ireland.

TRIBUTE TO SIR JOHN BYERS.

ON the evening of January 20th Sir John Byers was entertained to dinner by his professional colleagues on the visiting staff of the Royal Victoria Hospital, who presented him with a handsome Chippendale silver salver, on the completion of his term of office, after thirty-seven years' service as gynaecological surgeon to the hospital. Professor James Lindsay, chairman of the staff, presided; all the members of the staff except two, unavoidably prevented from attending, were present.

After the toast of the King, the chairman proposed the health of Sir John Byers, and made the presentation on behalf of the medical staff. In doing so he referred in terms of high praise to Sir John's long connexion with the hospital, his skill as a surgeon, his powers as a clinical teacher, and the administrative ability he showed as a member of the board of management. He mentioned also the keen interest Sir John had always taken in the public health of the city, especially with regard to tuberculosis and infant welfare. Sir John was also an authority on the folk-lore, phraseology, and antiquities of the province.

Professor Sinclair, C.B., then spoke in warm terms of Sir John Byers, as his lifelong friend, and referred to his early work in the Queen Street Hospital for Sick Children.

Dr. Walton Browne, D.L., a member of the consulting staff, and Mr. R. J. Johnstone, F.R.C.S., also joined in the expressions of good-will; the latter said he had worked with Sir John for many years as his assistant, and spoke of his great power as a lecturer, and his constant desire to forward the interests of the younger medical men.

Sir John Byers, in returning heartfelt and deepest thanks to his colleagues for their complimentary hospitality and beautiful gift, said that he valued the latter not merely for itself but because engraved thereon were the autographs of his twenty-three colleagues on the visiting staff. Sir John then gave some interesting reminiscences of his thirty-seven years' work, twenty-one of which were spent in the old Royal Hospital in Frederick Street and sixteen in the present Royal Victoria Hospital. He traced the growth of his department from a ward of four beds to the present wing, which was already far too small. He also described the growth of gynaecological work in general, referring especially to Caesarean section and other modern operations.

The toast of the Medical Staff, proposed by Sir John Byers, was acknowledged by Professor Lindsay. That of the Secretary of the Staff was proposed by Mr. Johnstone and responded to by Colonel Fullerton, C.B., C.M.G., F.R.C.S.I.

DOCTORS' THREATENED STRIKE.

The doctors in the Castlecomer Union have threatened to strike on February 1st unless the guardians accede to their demands for increased salaries. At a large meeting of Kilkenny and City medical practitioners a resolution was passed unanimously expressing thorough sympathy with the action of the medical officers of the Castlecomer Union in their determination to cease work and to refuse to attend any patient, private or otherwise, until their reasonable demand is acceded to. The following resolution was also passed:

> That the initial salary for all dispensaries in the county Kilkenny be £300 per annum, with £5 annual increments until a maximum of £365 is reached, and to be retrospectively applied.

Correspondence.

PUBLIC HEALTH VERSUS THE STATE.

SIR,—Dr. Barwise's diatribe is indebted rather to his imagination than to his mastery of my argument. He has plainly not read the article he criticizes. Let me state what I *did* submit—namely, that the constant factor in the determination of a nation's tuberculous mortality is the height of real wages, and that the State's function in dealing with the problem should be to raise real wages. Economic *laisser faire*, I stated, in England has twice been shown to raise real wages. Of *laisser faire* free trade is the conspicuous illustration, and protection the emphatic contradiction, just as is State paternalism. I submitted that paternalism, like protection, must necessarily do unseen mischief more than compensating the good done. To that point he does not address himself. He confines himself to the Corn Laws in his first paragraph; I never mentioned them. From the dates he could see that I attached great importance to the succession of Peel's free trade measures before the repeal of the Corn Laws; the paragraph, therefore, is irrelevant.

There are several things to depress or to enhance real wages. He must see that his second paragraph is also irrelevant, unless he maintains that in Ireland, during the rise of the tuberculosis mortality, real wages were rising. If he does so maintain, in a country torn by intestine troubles as Ireland was from 1860 onwards, he is surely alone in that opinion. He knows that when comparative peace was attained and wages rose, the rate fell. He says that the rapid fall after the McKinley tariff in Koch's New York chart "proves" the opposite of my theory. He is bold. A more shrinking modesty (I dare not say a more scientific mind) would have said "suggests." If that fall "*proves*" the opposite, what does the check after the Dingley tariff "*prove*"? I am anxious for the truth; I pointed to facts which seemed to negative my hypothesis. Let him be equally sincere. It, of course, "*proves*" nothing; it lasted for only three years, followed Cleveland's historic administration, and was followed by the low Wilson tariff. But even so, in the Massachusetts chart it shows, after three years, a slight slackening of the fall.

He is right to remind me that the Caprivi treaties were not the nearest approach to free trade which occurred in the early years. I should have written (as elsewhere I had) "return." I apologize, but it can have misled no one; it was plain that I began with the history of the empire after the immediate effects of the war might be supposed to have worn off and after protection began. He is right in saying that the German duties on wheat and rye were trebled in 1885. But he is again irrelevant unless he can show that real wages fell. He may be a little more cautious in his condemnations in the future, if he knows that the Board of Trade shows that in Germany the prices of breadstuffs and meat were conspicuously lower in 1835–89 than the average. As a fact, we know that real wages were rising in Germany as in most other countries.

He is again right in saying that the "merest tiro knows that the" (never offensively great) "prosperity of the German working classes dates from the adoption of the protective policy of List." He is badly wrong when he forgets to add that no one else (unless he has an axe to grind) does; as wrong as when he implies that Germany adopted the system of List. That childish fallacy has been a thousand times exposed.

In a burst of confidence he tells us that he was brought up at the feet of John Bright, and had to desert his camp at the sight of men starving under *laisser faire*. I confess that that seems to me a miserable *post hoc ergo propter hoc*. I find a lack of perspective in Dr. Barwise. Did he never realize the appalling conditions due to State control of trade which John Bright and his school did so much to ameliorate? Does he expect that conditions which depend on the nature of things can be altered forthwith by Parliament? And what is he to do now, into what camp to take refuge, when he finds a tuberculous death-rate unnecessarily and unprecedentedly swollen under the system he advocates, or sees the ulcerous sore of unemployment scabbed over by loans, to pay which generations yet unborn, with their own evils to correct, will have to sweat and bleed?

I would by no means curtail his enjoyments; if it pleases him to father on me the figments of his own fertile brain and then destroy them, it does not hurt me, though I am quite unable to understand the tone of his letter. But this I may say: he would be more usefully employed (especially since men of his way of thinking are now on their defence) in trying, with me, honestly to find out why tuberculosis from a dying has become a flourishing disease, the more the State and the municipality have joined in the struggle. Is there, in a word, any other explanation than the economic?—I am, etc.,

Rayleigh, Essex, Jan. 19th. B. G. M. BASKETT.

TEMPORARY COMMISSIONS, I.M.S.

SIR,—Granted that a bachelor can exist—not live—on 400 rupees a month in India, and even have a good time on 700, may I ask what grounds there are for suggesting that a married man, even without a family, can live under present conditions on 700 rupees a month?

From irreproachable data, more than fifteen years old, I find that a newly-married couple, practising the most degrading economy, expended, on the average, 714 rupees a month during the first three years of married life (and 1,111 rupees a month, over fifteen years), and this did not include house rent. The cost of living has doubled since then!

I would also like to ask Colonel Elliot how many men does he know who, *during their first two years*, have had the "chance of doing really big work as a surgeon, or as a physician, or as a specialist"?

As regards permanent commissions, can anyone say what are the prospects of a new recruit, in twenty years' time, either in the way of administrative appointments, well-paid billets, or pension?—I am, etc.,

January 18th. ENQUIRER.

*** We referred this letter to the Chairman of the Naval and Military Committee of the British Medical Association, who replies as follows:

SIR,—I have to thank you for so kindly affording me an opportunity of answering "Enquirer's" letter in the same issue in which it appears. I would first remind your readers that there are three sets of interests to be considered: (1) Those of the young men whom we desire to see sent out to India on temporary commissions; (2) those of the tired I.M.S. officers whom we wish to see relieved at the earliest possible moment; and (3) those of the India Office.

It may clear away misunderstanding if I first explain the basis of the Secretary of State's present offer. The Naval and Military Committee has asked that the pay of permanent officers shall be increased by 50 per cent. of the total pre-war pay as reckoned by the India Office in its circular dated August, 1919. According to that circular a lieutenant in charge of a regiment drew 450 rupees a month. According to our demands he would in future draw 675 rupees. It did not appear to us that we could fairly ask as much as this for temporary men, whose passages were to be paid both ways, and who would have the option of becoming permanent if they chose. We therefore fixed 650 rupees a month for our figure. In doing so we had in mind that the men who went out would be young men, and that most of them would be unmarried men. If a man marries before his prospects are assured, he gives hostages to fortune, wherever he serves. This must be borne in mind in the present case. The Secretary of State has met us most generously. He has fixed the pay at 700 rupees and 750 rupees; he has granted passages both ways, and in reply to our later inquiry, has hastened to assure us that the return passages apply to the wives and families, as well as to the officers. He has further assured us that the privilege of counting in this temporary service toward permanent service will be enjoyed by those who elect to remain permanently in the I.M.S. No one can deny that he has behaved promptly and generously, and it is for this reason that I include the interests of the India Office amongst those which *must* be considered if we are to retain a reputation for fair play and honourable dealing.

And now to answer "Enquirer's" questions:

1. It must be admitted that the cost of living differs greatly in different parts of India, and according to conditions under which a young man lives. The estimates contained in my last letter were derived from information afforded to the British Medical Association by officers who have recently written to us from India and by others, who, being home on leave, have kindly given us verbal evidence. Since reading "Enquirer's" letter I have prosecuted further inquiries, which have only tended to confirm me in the estimates already made. There is one point on which all are agreed—namely, that the Secretary of State's offer is liberal when it is remembered that it is extended to untried young men without tropical experience.

2. I have to thank "Enquirer" for his second question. I certainly did not mean to imply that a young man in his first two years of service would be likely to occupy one of the responsible appointments which are reserved for senior men. What I did mean, and I repeat it, is that any young man who goes out to India who is keen on the scientific side of his work, and who is willing to do a bit—if necessary, a big bit—over and above what he is bound by his contract to do, can always obtain opportunities which would be denied him at home, no matter how great his enthusiasm might be. The reason for this is that the material is so immense and the number of trained workers so very few. As a young man, on my first arrival in the country, such opportunities were afforded me by my senior officers. I took them and profited by them. The same was true of several of my friends; but the complaint made by the senior officers of those days was that so few young men would give up their leisure, their convenience, and their amusements for such a purpose. When, as a senior officer, I held charge of one of the most important hospitals in India, I extended the same facilities to all young men who were keen enough to make use of them. Some of the seniors among my friends did the same; but once again history repeated itself, and our experience was that very few of our juniors were keen enough to avail themselves of our offers. I have heard from young men who have recently returned from India that the same fine tradition of the service is being carried on. I stand by every word I said in my letter. The keen young man in India can always get his opportunities if he is willing to take them. The East is waiting for him if he has learnt the lesson, which the world just now seems to be forgetting, that success is only to be won by strenuous and continued effort. Fortune has no time and no use for the forty-five-hour-week man.

3. Then "Enquirer" asks what will be the prospects of a new recruit in twenty years' time. Who can answer that question for any service or for any business? In two years' time the young man will know far more about the probable prospects of the service than the best informed of us can guess to-day. The British Medical Association has put forward certain conditions of service—call them demands if you will, I would prefer not to—and we are bound to know very shortly whether those conditions will be fulfilled or not. If they are fulfilled the young man will know where he stands; if they are not, I fear the service will die of inanition. Of one thing I am assured, that the Secretary of State and his medical adviser know the facts of the case and are in sympathy with our aims. They are not all-powerful, and they have never pretended to be so. It is up to us to give them fair play and to help them to cut the present vicious circle by securing opportunities for leave to the many over-tired officers of the service.—I am, etc.,

R. H. ELLIOT,
Lieut.-Col. I.M.S.(ret.),
Chairman Naval and Military Committee,
London, W., Jan. 25th. British Medical Association.

MODE OF QUININE ADMINISTRATION.

SIR,—The letter of Sir Ronald Ross in your last issue (p. 130) is an exceedingly interesting and valuable contribution to the literature on the treatment of malaria, and the opinions of so eminent an authority are bound to carry great weight.

I entirely accept his views as regards the oral treatment for ordinary attacks of malaria, on the lines carried out at the various malaria hospitals and centres in this country, and agree with him that in such cases, taking into account the relative advantages and disadvantages of the various modes of administration, injections of quinine are not desirable.

It is in the exceptional cases of severe and intractable malaria of the types quoted previously that I have been compelled, as the result of clinical observation, to believe in the superiority of intravenous and intramuscular injections. No one who witnessed the results of treatment of the cases referred to in Northern Persia, and of some of the severe cases of malignant malaria in Mesopotamia, could fail to appreciate the value of these injections, and in not a few of these cases oral administration carried out over a period of ten days or more had failed to produce any beneficial result.

I have not the least doubt that in Mesopotamia and Persia very many lives were saved by the timely use of quinine injections, and this belief was shared by the medical officers who were in charge of the cases. Much more chemical research is necessary before a scientific explanation can be given of the precise mode of action in the different methods of quinine administration, and too much importance should not be attached to estimations of quinine in the circulating blood, for it is well known that the liver and spleen have the property of rapidly absorbing other alkaloids and organic substances—for example, morphine, strychnine, and salvarsan—in like manner.

My conclusions were based entirely on clinical observations.—I am, etc.,

London, W., January 26th. W. H. WILLCOX.

FORGETTING: PSYCHOLOGICAL REPRESSION.

SIR,—Years ago, when a medical student, I used to find relief from the dogmatic assertions of professors and textbooks in the correspondence pages of the BRITISH MEDICAL JOURNAL. It came to me as a pleasing discovery that neither were infallible, and that statements confidently made in the lecture theatre could be found contradicted, reasserted, and contradicted again in the battle-grounds of your columns. Since then I have continued to delight in the evidence which your paper affords, that the art of medicine is not a fixed thing hedged about by impassable limitations, but a living organism, assimilating, rejecting, and always growing. *Magna est veritas;* but readers of your JOURNAL may well echo the question of Pilate—"What is truth?" The obstetrical *mêlée* in one part of your paper is likely now to have its rival in the differences between the old and new schools of psychiatrists.

Your issue of January 10th contains a very able article by Dr. Alfred Carver on "Psychological repression." On January 17th Sir Robert Armstrong-Jones, whose eminence we all admit, contributes a letter in which he very courteously but very firmly repudiates the methods of Dr. Carver. As a member of the new school as represented by Dr. Carver I cannot refrain from ranging myself on his side, little though he needs such poor reinforcement. Sir Robert Armstrong-Jones questions "whether it be possible to forget by an act of volition." It is not; but it is possible to consistently ignore until the thing ignored is so overcast that it is no longer present to the consciousness, and has to be "dug" for before it can again impress the consciousness. This process of burial may be exceedingly rapid—as in the case of the shell-shocked soldier, or may be the result of years of repression—as is more usual in the case of the neurasthenic civilian. Whether or not the incident thus buried acts as a psychic irritant depends entirely upon the associations linked with it. If these are normal no harm is done, and the mind can continue to ignore the past with impunity, however unpleasant or horrible such past may be. Psychic trauma is, however, caused when the associations linked with the repressed incident are morbid and unnatural. As Dr. Carver points out, the discovery of the repression is but a step, and the important thing is to bring the idea into line with a normal outlook. In the case suggested by Sir Robert Armstrong-Jones of the woman depressed by a drunken husband I agree as to the futility of merely recalling her past to her; but supposing it were elicited that for some reason she blamed herself for her husband's drunkenness, the greatest possible good might result from showing her the unreasonableness of her fears if these were based on overconscientiousness. This, however, as also the other examples suggested by Sir Robert, are really beside the point, as the experiences he mentions are very unlikely to have been repressed to the point of "forgetting." In practice what one finds is that the depressed woman, the disappointed girl, the broken down actor, are sent to a nursing home, told not to talk of their worries, seen by the physician for five or ten minutes daily, drugged to sleep if restless, and finally turned out sufficiently drugged and disciplined to carry on an approach to normal life until the next breakdown.

The new school substitutes for the ten-minute visit of the physician and his inquiries—limited to the condition of the pulse, tongue, and bowels—a stay of an hour or more, during which the patient is encouraged to talk freely of her feelings and worries, while the light of common sense thrown on to them often succeeds in giving the sufferer a newer and healthier point of view. Direct suggestion, combined with the feeling that she has found in the physician a sympathetic and helpful friend, usually suffices to bring sleep, or hypnosis can be used for that purpose only. At first the troubles talked of will only be the obvious and more recent ones. Then one morning the doctor finds the patient excited and restless; questioned, she will say that something has come into her mind which she had "forgotten"; she feels she would like to talk about it but cannot—it is too dreadful or too trivial; but whichever she says, it is obvious to the physician that the excitement can only be allayed by a free talk. Then begins a tug-of-war, which might remind the obstetrician of a difficult forceps case. The greatest care must be taken not to suggest to the patient the nature of the revelation, but she is made to understand that her peace of mind depends on speaking out. Time and time again the confession is trembling on her lips and allowed to die away or evaded, and time and time again the physician tries to pin her down to the utterance she is longing to make. No one who has witnessed the mental disturbance caused by such a conflict can reasonably doubt the existence of psychic trauma caused by continued repression. At last out it comes, and the effervescent excitement dies away, leaving the patient exhausted but relieved. Delivery is safely accomplished. But what of the *mus* brought forth by this labour? Usually it is some incident in early childhood, sometimes of a definite sexual nature, harmless in itself, but distorted and magnified by morbid imaginings and disproportionate associations. The way is now clear, but the work is not done. Convalescence may be long and tedious; but the physician has now a firm foundation on which to build, and his building is the more likely to stand firm against the stress of everyday life. Introspection has served its purpose and is now discouraged, while by precept and practice the patient is taught that adaptation to environment the lack of which is the root of all neuroses.—I am, etc.,

Harrogate, Jan. 16th. R. G. M. LADELL.

SIR,—My only reason for intruding into the controversy in the issues of January 10th and 17th which has arisen between Sir William Hale-White and now Sir Robert Armstrong-Jones on the one hand, and Dr. Alfred Carver on the other, is to plead that the question at issue should not be allowed to rest where it is. The principle involved appears to be a vital one, for it is nothing less than the correct treatment to be pursued in certain cases of mental and nervous disorders. On the one hand we have men eminent in their profession, of great experience and the highest integrity, advising patients to forget their war experiences, and employ mental diversion to help them to forget. On the other hand, we find men also of high professional standing, large experience, and equal integrity, telling us that

> The forgetfulness thus advised is nothing other than repression, and psychological analysis invariably reveals the fact that the patient's anxiety condition is directly attributable to it.

Later in his paper Dr Carver states:

> I would say that the remarks here made apply with equal force to civilian psychoneurotics.

I suggest, Sir, that it is quite time this question should be settled one way or the other. We older men, who have followed a certain line of treatment for many years, must naturally feel some diffidence about abandoning it without strong reason. All my professional life, upwards of forty years, I employed the methods recommended by Sir William Hale-White in the treatment of certain mental and nervous disorders, and with results by no means unsatisfactory. Nevertheless, if the claims made by Dr. Carver, and many who think with him, for their treatment of bringing

to light unpleasant and repressed experiences are made good, then I for one would feel it obligatory on me to give my patients the benefit of the treatment. I strongly urge full, frank, and fair discussion of this important question, so that some decision may be arrived at.—I am, etc.,

CECIL A. P. OSBURNE, F.R.C.S.Ed.

Old Catton, Norwich, Jan. 20th.

SIR,—"It is sad, it is passing sad," that Dr. Thomas Lumsden continues to "insist over and over again" on his untenable theories of treatment of the war neuroses. There is really very little difference of opinion among those who from actual experience are competent to judge. Mono-symptomatic hysterical manifestations, such as mutism, aphonia, blindness, deafness, paralysis, and contractures can generally be completely and permanently cured at a single sitting by explanation, persuasion, and re-education. Such cases hardly ever relapse. On the other hand, psychasthenia is much more difficult to treat; prolonged psychotherapy of some kind is always necessary, combined with congenial occupation, such as was afforded at the Seale Hayne Hospital by the farm, workshops, and pottery. If arrangements can be made for these patients when they have recovered to go straight from hospital to suitable employment they rarely relapse. Unfortunately, however, the official arrangements are so inadequate that it is rarely possible to arrange for this except as a result of the personal efforts of the patient's medical officer. When he fails the vain search for work and the worry in connexion with pensions and medical boards after discharge from hospital only too often lead to relapse.

This would not be prevented by postponing discharge for three months, as advocated by Dr. Lumsden. His Country Host scheme was very wisely rejected by the War Office after careful consideration by a committee of experts of all the available evidence, as it was the universal experience that such treatment resulted in the perpetuation of the symptoms and made it exceedingly difficult for a man ever to learn to depend upon himself again.

The great majority of the 30,000 pensioners referred to by Dr. Lumsden were never in any special neurological hospital, such as Maghull and Seale Hayne, and the comparatively few relapses from such hospitals were almost invariably cases of psychasthenia, and not of hysteria.

I should like to protest once more against the supposed distinction between a rapid and a slow method of treatment. Presumably Sir Henry Davy bases his criticisms of the "rapid methods" of Seale Hayne on his two or three short official visits with inspecting generals. I can assure him that he was only shown gross hysterical cases under treatment, because it was obviously impossible to demonstrate before an audience the slow methods required for psychasthenia. If a man can be permanently cured of hysterical blindness in an hour, it is difficult to understand what advantage would be gained by prolonging the treatment over a month or a year.

To substitute "natural treatment by rest and good feeding" for the various forms of psychotherapy (which obviously exclude neither rest nor good feeding), as employed at Seale Hayne, Maghull, and all the other special neurological centres for soldiers and pensioners, in the way we are asked to do by Sir Robert Armstrong-Jones and Dr. Lumsden, would be to reject all the advances which have been made in our knowledge of the psycho-neuroses during the last five years.—I am, etc.,

London, Jan. 25th. ARTHUR F. HURST.

SIR,—I should like to thank Sir Robert Armstrong-Jones for his courteous criticism of my article. I quite agree with him that all questions relating to the mind are elusive, but this must not prevent us from putting forth our most earnest endeavour practically to grapple with them.

In the small space at my disposal I tried to confine my remarks to the subject of repression and readaptation, but Sir Robert shows an inclination considerably to enlarge the issue and assumes that I am committed to several other far-reaching hypotheses. The thesis I put forward is that the recognition by the patient of the cause of his failure is a necessary first step to his re-education, but I do not consider it an axiom that this must be obtained by abreaction; my mention of the fact that the bringing to light of ideas repressed because of their unbearable nature is accompanied by signs of emotion on the part of the patient was merely incidental and had no reference to the abreaction theory; considerable advances have been made since 1895. Only in comparatively rare instances does a bare knowledge of the repressed material suffice for the cure of the patient. The psychotherapist is far more concerned with combating the patient's "resistance," which was in the first instance responsible for the repression. If this resistance is not removed by a readjustment of the patient's attitude, relapse—either with the same or new symptoms—is only too liable to follow apparent cure. For this reason "lightning cures" should be regarded with suspicion. Adaptation is generally a difficult and, therefore, rather slow process.

I rather suspect that Sir Robert Armstrong-Jones is trying to lure me on to less safe ground by introducing the subject of the psychoses, which was beyond the scope of my article, and is too large for discussion here. I must, however, insist in this connexion also that merely to draw the patient's attention to events with which he is declining to deal is only a first step; it is not the ultimate aim of treatment, for to brood over and yet fail to tackle an unpleasant reality is almost as disadvantageous a procedure as repression. Maeterlinck has truly said: "Though over certain external events our influence is of the feeblest, yet we are all-powerful over what these events shall become within ourselves." In other words, the event is not the most important factor; what matters is whether we respond to it by repression and withdrawal, or by facing it courageously and adjusting ourselves to reality. As Havelock Ellis remarks: "It is a necessary task to adapt the universe to man, but it is sometimes also necessary to adapt man to the universe. When this adaptation is incomplete we are in the presence of disease."

I cannot follow Sir Robert Armstrong-Jones in considering that the lack of adaptation which psychopaths display by repressing what is disagreeable to them should be regarded as Nature's method of restoration. True there is a "psychopathology of everyday life," but even in small matters man pays a certain proportionate penalty whenever he shirks.

I regard a physician who aids and abets his patient's repression in much the same light as I should regard a dentist who advised a person suffering with toothache to seek diversion, and try to ignore this symptom rather than undergo the discomfort associated with a dental chair. Not by such means will either contribute to the real peace and health—psychic or somatic—of his patient.

Once the necessary adjustment has been effected I do not think any one could reasonably object to the patient being given a holiday under Dr. Lumsden's Country Host scheme.

Finally, with Dr. Major Greenwood, I trust that the discussion of a theme at once so interesting and so dangerous may not degenerate into acrimonious abuse. The question as to what is meant by the term "cure" is equally pertinent to both sides.—I am, etc.,

Birmingham, Jan. 25th. ALFRED CARVER.

"NEW LAMPS FOR OLD" IN OBSTETRICS.

SIR,—Truly, on reading the letters under this heading, one comes across some extraordinary views. I suppose we have to live with people to know them. One correspondent mentions the difficulty of applying forceps properly. It is their very ease of application, and the satisfaction of getting the case over quickly that, in 99 cases out of 100, induces men to use them. Another states that he can deliver a woman five minutes after the forceps are applied. Perhaps ½ c.cm. of pituitary would have done it in four minutes. I wonder what kind of perineum he has to deal with, for in some primiparae I take with forceps as long as three-quarters of an hour to guide the head over the perineum.

But we return to the old question—Is interference in normal labour desirable?—in other words, Are we justified in converting a perfectly natural process into a surgical operation? I say decidedly, No, and in their inner consciences most men say the same. Medical men have no business to attend normal confinements; they have now too much to do, and have no time to sit waiting, making frequent vaginal examinations, and asking themselves, "How much longer?" Doctors in bygone times acted more as midwives; they would remain at the bedside hour

after hour, holding and squeezing the belly. Now more common sense prevails, and all the spade work is done by a good nurse.

There is nothing seriously the matter with the old lamps which are well and truly made. They require trimming—that is all.—I am, etc.,

Upholland, Wigan, Jan. 26th. J. THOMSON SHIRLAW.

SCOTTISH COLLIERY SURGEONS AND THE MINERS' UNION.

SIR,—In a recent issue (January 3rd) you stated that as a result of negotiations between the Scottish Colliery Surgeons' Committee and the Miners' Union, an agreement had been reached for a uniform flat rate of 3½d. per week without the supply of medicine and 4½d. where the latter was supplied. Some of us are wondering how this came about. At the early meetings held to discuss the matter all were firmly resolved that the payments would be 6d. and 5d. weekly respectively. Later we signed a document to the effect that in the event of the miners refusing these terms we would revert to private practice, that is, regarding their wives and families. Little more was heard on the subject until the middle of December last when we received notice that at a meeting held in Glasgow the miners' representatives offered 3½d. and 4½d., whereas our men came down to 4d. and 5d. as the lowest acceptable minimum. We were asked to state our preference between the two, and in the event of our adhering to the larger sum to indicate again whether we would revert to private practice in the case of the miners' refusal. Every medical man I have spoken to, who had any colliery work whatever, stuck out for the larger fees. The next we heard was from the columns of an evening newspaper that the surgeons' representatives had once more retreated. Not another word have we heard on the subject. A good few of us fancy that if the miners' officials had shown a bit more backbone we should have found ourselves committed to attend their dependants at, say, ½d. per week—with medicine thrown in to balance matters!—I am, etc.,

January 16th. SCOTTISH COLLIERY SURGEON.

SIR,—In reply to the foregoing letter which, by your courtesy, I have been permitted to read, I beg to state the facts as far as known to me.

In the spring of last year the Colliery and Public Works Surgeons' Committee formulated a policy on the following lines, namely:

1. That recognition of the committee, as representing all the colliery doctors in Scotland, should be demanded from the Miners' Union.
2. That a uniform flat rate be demanded, applicable to all areas in Scotland, for medical attendance apart from the supplying of drugs.
3. That no area should accept any settlement unless all the areas received the terms agreed to by the committee.
4. That 5d. per week per worker be asked as the rate for medical attendance; and that in areas where medicine is supplied, the additional rate should be not less than 1d.

In furtherance of this policy notices of termination of existing agreements were sent in by the local executives in each area, and practitioners were asked to sign an undertaking to refuse to continue treatment of dependants on a contract basis when asked to do so by the committee. That undertaking was signed almost universally.

After considerable negotiation items 1 and 2 were obtained, but the 5d. rate asked for was refused, and the miners' final offer was 3½d. for medical attendance and 4½d. for attendance and medicine. The Committee neither accepted nor refused this offer, but referred it back to the areas. Each delegate was instructed to obtain a mandate from his constituents, and at the meeting in December every delegate present reported that he had been instructed to try to secure better terms, but not to vote for a strike in the event of these terms not being obtained.

At no time did the Committee say that resignations were to be sent in if the 5d. rate was not obtained; and at every stage the representatives were understood to have consulted their constituents. If any representative failed to do so, the Committee was not made aware of the fact.

A word as to the relationship of the British Medical Association to this Committee. The Scottish Committee of the British Medical Association, in return for a contribution made to the funds of the Colliery Surgeons' Committee, has three representatives on it, and undertakes to support any action taken by the latter Committee if the policy be approved by the former. When the policy was formulated last year the Scottish Committee circularized every practitioner in the areas concerned, urging their support of the policy and offering the help of the Association in furtherance of it.—I am, etc.,

JAS. R. DREVER,
6, Rutland Square, Edinburgh, January 20th, 1920. Scottish Medical Secretary.

THE ORDER OF ST. JOHN.

SIR,—May I be allowed to thank you for the very valuable information in the reply to my query about the conditions under which the various grades in the "Grand Priory of the Order of St. John of Jerusalem in England" are awarded? It has cleared up some knotty points.

May I further trespass by asking if the "Priory of St. Torphichen" in Scotland and the "Priory of St. John in Wales" grant similar awards under conditions which seem to me to be strangely out of keeping with modern ideas, which apparently govern each of the other Orders of Chivalry, old and new?

Some years ago, when I was actively interested in the granting of certificates in "first aid" and "home nursing," those of the St. John enjoyed exclusive privileges, especially in relation to the Police and the Marine Department of the Board of Trade. Can you inform me if these privileges are still in existence, or have they been extended to other bodies which to day undertake similar services, such as county councils and Red Cross societies?—I am, etc.,

January 12th. "ONE INTERESTED."

*** There is no Priory of the Order of St. John in Scotland. There is a St. Andrew's Ambulance Association in Scotland, but there is no Order of St. Andrew and no Orders are conferred by the St. Andrew's Ambulance Association. The old buildings of Torphichen Priory still exist, but they have no connexion with St. Andrew's Ambulance Association. The first-aid certificates granted by the St. Andrew's Ambulance Association are interchangeable in England as well as Scotland with those granted by the St. John Ambulance Association, and equally fulfil the requirements of the Home Office and the Marine Department of the Board of Trade. We understand that the first-aid certificates, first and second class, granted after examination by the British Red Cross Society and by certain county councils are accepted by the Board of Trade as certificates of competency as master or mate in the Mercantile Marine, and by the War Office as evidence of competency for voluntary aid detachments. It appears, therefore, that the St. John's certificates have not any exclusive privilege, and that the recognition they confer attaches also to similar certificates granted by several other bodies. We have no information as to the "Priory of St. John in Wales" nor do we know how it is regarded by the authorities at St. John's Gate, Clerkenwell.

Universities and Colleges.

UNIVERSITY OF OXFORD.

AT a congregation held on January 22nd the degree of Doctor of Medicine was conferred on:

R. St. A. Heathcote, C. P. Symonds, T. B. Heaton; C. H. Barber (in absentiâ).

UNIVERSITY OF CAMBRIDGE.

MR. C. R. A. THACKER, M.B., B.Ch., Fellow of Sydney Sussex College, has been appointed additional demonstrator in physiology, and Mr. M. B. R. Swann, M.R.C.S., demonstrator in pathology.

At a congregation held on January 23rd the following medical degrees were conferred:

M.D.—H. V. Deakin, B. W. M. Aston Key.
M.B., B.CH.—H. W. C. Vines, G. H. Oriel.
B.CH.—O. G. Morgan, J. Hale, C. S. Dodson, A. C. M. Coxon.

UNIVERSITY OF LONDON.

DR. H. L. EASON, C.B., C.M.G., senior ophthalmic surgeon to Guy's Hospital, has been elected by the Faculty of Medicine as its representative upon the Senate, in succession to Sir Cooper Perry, who has resigned on his appointment as Principal Officer of the University.

CONJOINT BOARD IN SCOTLAND.

THE following candidates, having passed the final examination, were admitted L.R.C.P.E., L.R.C.S.E., L.R.F.P.S.G.:

Lizzie R. Clark, J. Campbell, R. J. C. Meek, A. Strang, W. F. S. Webb, A. F. W. Thompson, E. F. Birkenstock, Janet A. A. Sang, T. Blarney, R. Carl Fechter, T. W. Stewart.

The Services.

ARMY PAY OF CIVILIAN MEDICAL PRACTITIONERS.

A ROYAL WARRANT (dated January 18th, 1920, and published in Army Order No. 10 of 1920) increases the rate of remuneration of civilian medical practitioners engaged under Article 364 of the Pay Warrant to render medical attendance and examine recruits where army medical practitioners are not available. The substituted rates for medical attendance (including vaccination and cost of medicines) are £7 10s. a year if there are fewer than 10 persons entitled to medical attendance; and when there are 10 persons or more, £15 for every complete 25 or portion of 25, provided that the total emoluments for all services exclusive of the examination of recruits shall not in any instance exceed £1 10s. for any one day. For examination of recruits 2s 6d. is allowed for each recruit for the regular forces, subject to a maximum of £2 a day for services under this head. The new rates come into force as from January 1st, 1920.

HONOURS.

Military Cross.

AMONG the immediate awards conferred by Major-General Sir W. E. Ironside, K.C.B. (under powers vested in him by His Majesty), for conspicuous gallantry and devotion to duty in North Russia, is the Military Cross to Captain James Vallance, R.A.M.C., attached 45th Battalion Royal Fusiliers.

For great gallantry and devotion to duty in dressing and attending wounded under fire. As each objective was gained he followed up immediately, dressing and bringing in all wounded on his way. In one village the Bolsheviks landed a party of sailors, and it was only through his untiring efforts that the wounded were removed to a place of safety.

Mentioned for Services Rendered.

The names of the following officers of the Indian Medical Services have been brought to the notice of the Secretary of State for War for valuable services rendered in India during the war:

Lieut.-Colonels: H. Boulton, (temporary Colonel) H. Burdon, C.I.E. Major (acting Lieut.-Colonel) J. B. D. Hunter (attached South Persia Rifles). Captains: J. B. Hanafin, J. A. A. Kernahan (attached South Persia Rifles), (temporary Lieut.-Colonel) J. V. Macdonald, M.C., R. R. M. Porter, J. A. Sinton, V.C., (temporary Major) M. A. Rahman. Temporary Captain H. S. Hensman. Temporary Lieutenants: L. J. P. Mordaunt, A. Noble (attached 124th Baluchistan Infantry), T. Mahomed Nawaz.

Foreign Decoration.

Surgeon Commander Robert W. B. Hall, R.N., has been appointed by the King of the Hellenes to be an Officer of the Order of the Redeemer for distinguished services rendered during the war.

The Territorial Decoration has been conferred upon Colonel Percy C. Burgess, A.M.S.

Obituary.

CECIL RUPERT CHAWORTH LYSTER, M.R.C.S.,

Lately Medical Officer in Charge of the Electro-therapeutic Department, Middlesex Hospital.

WE have to record with much regret the death on January 26th of Dr. Cecil R. C. Lyster, who was for seventeen years medical officer in charge of the electro-therapeutic department of the Middlesex Hospital. He was born in London in December, 1859, the eldest son of the late A. C. Lyster of Abbey Wood. He received his professional education at Charing Cross Hospital, and obtained the diploma of M.R.C.S.Eng. in 1881. After holding various house appointments at Charing Cross Hospital he was appointed medical superintendent and honorary secretary of the Bolingbroke Hospital, Wandsworth, in 1885, and remained there until 1902, when he joined the staff of the Middlesex Hospital as electro-therapeutist. Dr. Lyster was one of the first medical men to undertake *x*-ray investigation, more particularly in relation to the treatment of cancer. He became president of the electro-therapeutic section of the Royal Society of Medicine, and during the war he served as medical officer directing radiology, electro-therapeutics, and massage at Queen Alexandra's Hospital, Millbank. In the early days of experimentation with *x* rays, when their harmful properties were little understood, Dr. Lyster sustained severe dermatitis on his hands from exposure to the rays. Despite repeated amputation of the fingers, and much suffering, he remained at work until November last, when, a dying man, he at last gave up his post at the Middlesex Hospital. Speaking at the court of governors, held on November 27th, the Earl of Athlone announced Dr. Lyster's resignation, and made sympathetic reference to his self-sacrificing devotion to duty. The Chairman of the Middlesex Hospital added:

One of the pioneers of scientific research, Dr. Lyster applied himself to the study of *x* rays and their use in the treatment of disease, especially cancer, and more recently he has been concerned in an attempt to determine the effects of radium, and to standardize its applications as a remedial agent. He himself, by exposure to the rays in the early days when the knowledge of their power was slight, fell a victim to the disease he sought to conquer; though suffering and compelled frequently to seek the surgeon's aid, he declined to be set aside from his purpose, and continued his good work until now, when work is for him no longer possible. Such a record of service for others, a life spent in the advancement of science, with no regard for personal safety, commands our admiration, wonder, and respect.

The funeral service took place in the Middlesex Hospital chapel on Thursday morning, January 29th.

GEORGE A. HICKS, M.D., F.R.C.S.ED.,

Surgeon Samaritan Hospital for Women, Belfast.

IT is with deep regret that we announce the death of Dr. George Adam Hicks, F.R.C.S.Ed., which took place at his residence in Belfast on January 24th. He was in good health until a fortnight before his death, when a small wound on the thumb was infected during attendance on a septic case. A haemolytic streptococcus was isolated which had also been found in the patient. Despite the unremitting attention and skill of several of his colleagues he sank under the infection.

Dr. Hicks was a native of co. Sligo, studied at Queen's College, Belfast, and graduated M.B., B.Ch., B.A.O. in 1897; he obtained the M.D. in 1904 and the F.R.C.S.Ed. in 1912. He was for a time demonstrator of physiology in Queen's College. He had engaged in general practice; when, on the retirement of the late Dr. J. St. Clair Boyd from the Samaritan Hospital for Women, Dr. Hicks was elected gynaecological surgeon in his stead. Thereafter he confined his work to gynaecology and obstetrics, and at his death had one of the largest consulting practices in this department in the north of Ireland. As one of the surgeons to the Samaritan Hospital he had three or four students as clinical clerks every month, and his list of students was always filled for several months in advance. His lucid teaching and painstaking care were in keeping with the conscientious discharge of all his professional duties. His contributions to the medical societies were highly appreciated, and proved his ability, skill, and familiarity with all recent research. There is no doubt that constant and ever-increasing arduous work undermined his powers of resistance, and thus yet another name is added to the roll of those who succumb to disease contracted in the discharge of their duty.

Dr. Hicks was held in great affection and esteem by his patients, professional colleagues, and the students who worked under him, and his loss will be severely felt. Deep sympathy is felt for his widow and only child.

WE regret to record the untimely death, on January 24th, of Dr. FRANCIS NORMAN VICTOR DYER, in his 26th year. He was the only son of Mr. and Mrs. Dyer of Harrogate. He was educated at Marlborough, Clare College, Cambridge, and St. Thomas's Hospital, and qualified M.R.C.S. and L.R.C.P. in January, 1918, graduating M.A., M.B., and B.Ch. in October last. When war broke out he served as a dresser in the 1st Eastern Hospital, Cambridge; he was six months a surgeon probationer in H.M.S. *Buttercup*, then resident anaesthetist and casualty officer at St. Thomas's Hospital; afterwards surgeon R.N. in H.M.S. *Birkenhead* until the surrender of the German Fleet, when he transferred to the R.A.F., and was a member of the Invaliding Medical Board at Hampstead. He was demobilized at the end of October last, when he was appointed assistant medical officer at the London Fever Hospital, where he contracted scarlet fever and died at his work.

Medical News.

THE Minister of Health has promoted Dr. Richard J. Reece, C.B., to be a senior medical officer of the Ministry.

SIR BERKELEY MOYNIHAN will give a Hunterian lecture at the Royal College of Surgeons of England on the late surgery of gunshot wounds of the chest on Monday next at 5 p.m. A Hunterian lecture on the surgical aspect of dysentery will be given on Friday, February 6th, at the same hour, by Mr. V. Zachary Cope, M.S., F.R.C.S. The dates of other Hunterian lectures will be announced in subsequent issues.

DR. ROBERT WILLIAM MACKENNA has been appointed honorary dermatologist to the Royal Infirmary, Liverpool, in succession to Dr. H. Leslie Roberts, who retired at the beginning of the year under the age rule.

THE Lord Mayor of London will preside at a meeting at the Mansion House on Thursday, February 5th, at 3.30 p.m., when the views of the Society for the Prevention of Venereal Disease on the importance of immediate self-disinfection, as a means of preventing the spread of venereal diseases, will be stated by Lord Willoughby de Broke, Lord Riddell, Sir William Arbuthnot Lane, Sir James Crichton-Browne, Sir Ray Lankester, Sir Archdall Reid, Sir Arthur Sloggett, and others.

THE Ministry of Health has issued to the councils of counties and boroughs a memorandum on the duties of local authorities under the Sale of Food and Drugs Acts. The Ministry states that it is aware that in many areas this work was necessarily curtailed to some extent during the war, owing to the shortage of staff and pressure of special work, but it urges local authorities now to take steps to ensure that the powers conferred upon them are fully utilized. The memorandum reminds authorities of the obligation upon them to transmit the analyst's reports at once to the Ministry.

MR. DAVID ANDERSON SHENNAN, a director of the Buenos Aires Great Southern Railway, has by his will bequeathed £5,000 to the London Hospital, the income to be applied to research work in connexion with the septic form of Bright's disease. He has also bequeathed £3,000 each to St. George's Hospital, the Victoria Hospital for Children, Chelsea, and the British Hospital, Buenos Aires.

WE gave some account last week of a White Paper issued by the Board of Trade containing the report of a committee appointed to investigate the position of prices and supply of quinine. A reply to the White Paper has been published by the managing director of the British Quinine Corporation in the *Chemist and Druggist*. It is in the nature of a *tu quoque*. He alleges that on the sale of 840,000 ounces of quinine at 2s. 11d. the Government made a profit of 1s. 3d. an ounce, or about £45,000, whereas the Quinine Corporation, by the rise in price which occurred immediately after the purchase, made only £21,000. It is stated also that during the whole of the war the price of quinine was higher in the United States than in this country, and is to-day 90 cents an ounce in first hands.

DR. CHRISTOPHER ADDISON, M.P., Minister of Health, declared open the new head quarters of the British Dental Association (23, Russell Square) on the afternoon of January 23rd. Mr. Montagu F. Hopson, president of the association, presided over a large company. In the course of his address Dr. Addison expressed the thanks of the Government to the Dental Services Committee and the Dental Tribunal for the work they did for the nation during the war. He spoke of the serious shortage of qualified dentists, and suggested that in view of the heavy expense incurred in training for the dental profession the length of the curriculum might be reduced. He referred also to the need for a co-ordinated service linking up medical men, dentists, nurses, and kindred workers. In helping to bring this about the British Dental Association could do work which would be of value not only to their own profession but to the community. He undertook that in this task the Ministry of Health would do all in its power to assist.

THE current number of the *Edinburgh Review* contains a well informed and sympathetic account by Mr. de Castro of the Rev. Stephen Hales, the first to measure the blood pressure, one of the first to study the physiology of plants, the first to devise a method of ventilating ships, and one of the founders of the Royal Society of Arts. He was buried at Teddington, of which he was perpetual curate, and to which he brought a supply of pure water, but the Princess of Wales of the day erected a monument to him in Westminster Abbey with a portrait bas-relief.

SIR ARCHIBALD GARROD, director of the medical clinic at St. Bartholomew's Hospital, will give the Schorstein Memorial Lecture at the London Hospital Medical College on Friday, February 20th, at 4 p.m. The subject is diagnosis of disease of the pancreas.

THE Milroy Lectures before the Royal College of Physicians of London will be given by Dr. Aldo Castellani, C.M.G., M.R.C.P., on February 26th and March 2nd and 4th. The subject is the higher fungi in relation to human pathology. The Goulstonian Lectures by Dr. J. L. Birley, C.B.E., physician to out-patients, St. Thomas's Hospital, and consulting physician R.A.F., will deal with the principles of medical science as applied to military aviation; the first lecture will be given on March 9th. The Lumleian Lectures by Sir John Rose Bradford, to begin on March 18th, will be devoted to "the clinical experiences of a physician during the campaign in France and Flanders, 1914–1919."

THE Women's Medical Association of New York City has made a generous offer to medical women. It has for award to a woman physician the Mary Putnam Jacobi fellowship of 800 dollars (about £2,000) for post-graduate study in any country for work in any medical science. Full particulars can be obtained from Dr. Murrell, 86, Porchester Terrace, London, W.2.

MESSRS. WILLIAM HODGE AND CO. (Edinburgh and London) announce that they are about to resume publication of the series of notable trials suspended during the war. *The Trial of Hawley Harvey Crippen*, edited with an introduction by Mr. Filson Young, is nearly ready.

Letters, Notes, and Answers.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London*; telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London*; telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London*; telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

QUERIES AND ANSWERS.

T. asks whether any treatment short of operation can be advised for a case of obstinate trigeminal neuralgia in which the ordinary remedies have afforded no relief.

DR. W. B. DRUMMOND (Medical Superintendent Baldovan Institution, by Dundee) asks for references to literature dealing with the influence of atmospheric conditions on epilepsy.

ALOPECIA.

DR. G. E. CARVER (Paris) writes, in reply to a correspondent who asked for suggestions for the treatment of alopecia in a girl, that modern French writers (Jacquet, Rousseau-Decelle, and others) believe that this condition is frequently produced by dental trouble, active or passive. At the age in question (19) an unerupted wisdom tooth might be to blame.

INCOME TAX.

G. S. writes: (1) Should part-time employment on Medical Boards (M. of P.) be assessed under Schedule E, and if so, how is one supposed to estimate the amount for the ensuing year? (2) Should a divided share in trust property, payment of which is made by the solicitors, be returned under Schedule A or classed with other dividends under Schedule D? (3) As to a preference dividend just received for dividends accruing 1916 to 1918, can the excess tax be reclaimed on this year's claim?

*** (1) In our opinion the receipts from such work are not strictly the results of an "office" under the Crown, and fall for assessment under Schedule D as the profits of "employment," and are consequently assessable on a three years' average—or on an average of the past year, or two years if the employment has not extended over three past years. For the first year the income would be assessable on the amount receivable for that year, whether the liability falls under Schedule E or Schedule D, and in that case the assessment should be made at the end of the year. (2) If the income in question is derived entirely from real estate, we suggest that it should be shown as assessed under Schedule A, if it is derived from a mixed fund—property rents, interest, etc.—

as income in the nature of dividends. (3) Arrears of preference dividends appear to be treated for repayment purposes as income of the year when the profits were made from which the arrears were paid. For instance, if 1919 is the year for which the company's profits have been sufficient to permit of the payment of the arrears, then they would be regarded for repayment purposes as income of the year to April 5th, 1920. The rule appears to be founded on commonsense principles, and our correspondent will probably find little difficulty in applying it to his case.

F. G. W. was acting as a locumtenent to May, 1919; from that date until September 15th, 1919, his earnings were *nil;* he then took over a general practice. He has recently received a notice of an income-tax assessment putting his earnings as £400. What is his position?

*** Presuming that his earnings as a locumtenent extended to May 17th—that is, covered a period of six weeks in the financial year ending April 5th, 1920—the income from that source at £8 8s. per week would be £50. So far as his income from the general practice is concerned, his liability is determined by the past profits of the practice during the three years 1916, 1917, and 1918, which he can, perhaps, ascertain from his predecessor or from the income-tax inspector.* Assuming that the net average profits of the practice have been £780, for example, his liability for the period September 15th, 1919, to April 5th, 1920, would be $\frac{33}{52}$ of £780, that is, £435, and his total earnings for the year £485. If he has no other income, the net liability would be £485, less £100 abatement, £62 20s. life assurance allowance, £50 wife allowance (not £25, which was the amount allowed in 1918-19)—that is, £272 10s. at 2s. 3d. The expenses to which our correspondent refers—motor car, drugs, etc.—are legitimate deductions from the gross earnings of the practice, but, unless he is taking over his predecessor's book debts, his actual cash receipts will not be admitted to reflect fully the real amount of those gross earnings during the early years of his general practice work.

* Hitherto the official in question has been referred to in this column as the "surveyor," but we understand that his official designation is now "inspector," and we shall adopt that nomenclature in future to avoid misunderstanding.

LETTERS, NOTES, ETC.

PROFESSIONAL SECRECY.

WE have received from Dr. Arthur Powell, Professor of Medical Jurisprudence, Bombay University, a letter containing an expression of opinion to the effect that a medical man errs in objecting to give evidence in court with regard to a patient's condition if asked to do so by the patient on the advice of his or her legal adviser.

COPPER ALANINE IN INOPERABLE CANCER.

MESSRS. BOOTS (Research Laboratory, Island Street, Nottingham) inform us that the solution of copper alanine they supply contains 0.44 per cent. of the salt. Although a 1 per cent. solution can be obtained it appears to be supersaturated, and on long standing crystals of copper alanine are deposited, thus necessitating filtration of the solution before use. The solution as now supplied is made by shaking excess of the salt with water at the ordinary temperature until the saturation point is reached, and hence, unless a considerable diminution in the temperature occurs, no separation of the salt can take place.

DR. J. A. SHAW-MACKENZIE (London, W.) writes: In your issue of January 17th, 1920, p. 104, a note appears under the above title, in which palliative results obtained by Dr. James Donelan in a case of inoperable cancer of the tongue by the employment of copper alanine (the use of which in protozoal diseases and in inoperable cancer was suggested and its lack of toxicity in proper dosage demonstrated by me) is referred to and the sale of the drug announced. Although distinct benefit appears to have been derived in the above-mentioned case, it does not follow that the drug would necessarily have a similar influence for good in cancer generally or in other situations.

Copper compounds of amino-acids were prepared by me in the Physiological Laboratory, King's College. Although such compounds were not new, I directed particular attention to copper glycine and copper alanine. I found that they were soluble in serum without precipitating the serum protein, or other proteins, and that they had a marked toxic action on protozoa, which suggested the use of this form of copper intravenously, and its possible use in protozoal diseases and in cancer. Experimentally the method itself in suitable dosage was found to be harmless. With regard to cancer I pointed out that any treatment with this form of copper was of an entirely experimental character. With the object of carrying out such experiments, I have given some of the copper alanine prepared by me in the laboratory to surgeons and others who have been sufficiently interested in the clinical action, and who have asked for it for trial. While palliative results seem to have been obtained in certain cases for a time, no effect has been witnessed in others. As I have pointed out elsewhere, Mr. Aslett Baldwin, who has been kindly making investigation in a considerable number of cases of cancer and keeping me acquainted with the results, has not yet been able to come to any definite conclusion. With regard to dosage, 1 to 2.5 c.cm. of a 1 per cent. solution are stated to have been employed. In my own work nothing like this dosage has been given. It may be pointed out at once that it appears most unlikely that a 1 per cent. solution has actually been used, since copper alanine, although soluble in boiling water to that extent, crystallizes out if the solution be cooled to room temperature. By actual investigation it was determined that the approximate solubility of copper alanine at room temperature is 0.45 per cent. But as a saturated solution is obviously unadapted for general clinical use, a strength of 1 in 300 was recommended by me. From this it is already obvious that the injections referred to in the note must be less than the half of the amount of copper alanine stated.

The correct spelling of all amino-acids is with a final (e); alanine, *not* alanin, is therefore correct according to the terminology of the Chemical Society.

A SIMPLE SPECULUM ILLUMINATOR.

DR. HENRY DUTCH (London, W.) writes: I am sending a new combination instrument which I have called the G.P. pocket throat and ear outfit. By a simple attachment of a collar to a miniature electric torch one can see with the laryngeal mirror the vocal cords and with the speculum the drum of the ear. A tongue spatula is also added, which gives perfect illumination of the throat and fauces. Dentists can use the mirror for examining the teeth, and the work of the laryngologist is simplified. The outfit will be supplied by Messrs. Maw Son and Sons and other surgical instrument makers at the price of one guinea.

INSULAR ORTHOGRAPHY.

DR. C. S. PANTIN of Douglas has been good enough to send us a copy of a bill to amend the Workmen's Compensation Act of 1919, now before the Court of Tynwald of the Isle of Man. Section 4 (4) of this bill strikes him as so funny that he wants others to enjoy it. It runs thus:

> (4) In the third schedule of the principal Act, for the word "celbilitis" there shall be read the word "cellutitis"; for the words "of the patella" there shall be read the words "over the patella"; for the word "bevisitis" there shall be read the word "bursitis"; and for the word "synoiral" there shall be read the word "synovial." The principal Act shall be read and construed as if the amendments in this section had always formed part of such Act.

Manx compositors would appear to have original notions upon the subject of medical nomenclature, and we are rather afraid that a further amending Act may be necessary in order to regularize the disease "cellutitis." Dr. Pantin adds that it will not surprise our readers to learn that the Government that produces such legislation has recently appointed a commission of thirty persons to consider health insurance, and has not put any medical man on the commission.

THE TAGLIACOTIAN DOCTRINE.

LIEUT.-COLONEL B. L. MILLS, M.D., R.A.M.C. (retired), writes: Colonel J. Smyth, I.M.S., should verify his references before quoting Indian mythology. At Ganesha's birth his mother insisted on Saturn looking at him, with the result that the infant's head was burnt off by his gaze. Indra rushed out and cut off the first animal's head that he met, which was an elephant, and *placed* it on the infant, who recovered and became the Hindu god of prudence and policy.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 33, 34, 37, 38, 39, 40, and 41 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 35, 36, and 37.

THE following appointments of certifying factory surgeons are vacant: Bovey Tracey (Devon), Coupar Angus (Perth), Great Wakering (Essex), Hatfield (Hertford), Sligo (Sligo), Woburn Sands (Bedford).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	6	0
Each additional line	0	0	9
Whole single column	4	0	0
Whole page	12	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.